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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

SARCOMA.*

By HENEAGE GIBBES, M. D., Detroit, Michigan.
HEALTH OFFICER OF DETROIT.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

My paper this evening may be considered a sequel to one read before the Medical and Library Association last May, which is published in the November number of The Physician and Surgeon. That paper was on "Carcinoma," and the object of it was to consider the nature of the neoplasm with the view of finding some means by which the growth could be stopped.

Sarcoma is so intimately connected with carcinoma in its manner of growth and the destruction it causes, that the minute differences which exist must be fully understood before we can attempt to formulate any treatment which will curtail the development of these malignant neoplasms. In my paper on carcinoma I have shown the differences that exist in the different varieties, and that these differences may require modifications in any treatment adopted, with the view of checking their growth. But in considering sarcoma we have one fundamental distinction between it and carcinoma which we must consider first of all.

Carcinoma is developed from normal tissues which have themselves been developed from the epiblast or hypoblast. Sarcoma on the other hand is developed from normal tissues arising from the mesoblast, so that we have neoplasms growing as masses of newly formed cells without apparently aim or object, and yet in the one case their type is protective or glandular, in the other mechanical. The result is the same, however; the normal tissue is destroyed and replaced by the new growth.

Sarcoma is a neoplasm derived from preexisting normal tissue which has in every case been derived from the cells of the mesoblast; it is therefore of connective tissue type. In studying the varieties of sarcoma we find that we have a gradual transition from neoplasms composed entirely of cells and blood-vessels, with a varying amount of intercellular cement substance, to those which approach in structure normal connective tissues, but which have still some malignant tendencies.

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* Read before the Detroit Academy of Medicine.

What may be considered typical sarcomas are the round and spindle celled. These growths consist of masses of cells, either round or spindle-shaped, and running through the growth are numbers of blood-vessels, mostly capillaries lying in contact with the cells. In some growths the cells are all of large size, in others they are small, this variation giving a subdivision in their classification. We next find a variety of sarcoma growing in the vicinity of bone, the myeloid, characterized by the presence of large multinuclear cells like those found in normal bone marrow. These cells are imbedded in a matrix of either round or spindle cells. Another variety, melanotic sarcoma, contains pigment in such quantities sometimes as to make it appear perfectly black. These four varieties may be considered the typical sarcomas. In addition there are several —such as lympho-sarcoma, fibro-sarcoma, chondro-sarcoma and angio-sarcoma —which contain so much of the normal tissues that they are distinguished by histological names, and yet have some features which are distinctly sarcomatous.

I do not intend in this paper to discuss the different varieties of sarcoma, but simply to point out the prevailing characteristics of this malignant neoplasm, which must be considered if we attempt to stop its growth, or in other words, cure the disease.

In the first place we know that sarcoma grows from some normal tissue that is itself derived from the mesoblast, and that this normal tissue is in the adult stage, when the neoplasm begins to grow. Secondly, I have found in a number of cases that have been favorable for observation, that the neoplasm does not start and grow from the adult normal tissue as the fully formed sarcoma, of whatever variety it may be, but it begins as embryonic connective tissue in no way distinguishable from fetal connective tissue, and composed of the same elements. I have observed this in a number of cases, but they were generally of the most malignant type. I cannot say positively that this is the mode of procedure in every case, but I think it is. My observations have shown me that a sarcoma forming as a secondary growth, at a distance from the primary, begins first as embryonic connective tissue, and then one form of cell in this tissue is selected and the adult growth built up on that model. In this way we have round or spindle-celled growths, but I must say that this method of formation has been found most frequently in those neoplasms that are most malignant. In connection with this I may mention that malignancy is associated with rapid growth, and those neoplasms, that is, sarcomas, are the most malignant the closer they remain to the embryonic type. Judging from a pathological standpoint I think the round-celled sarcoma, consisting of large irregularly rounded cells which grow with immense rapidity, and of a jelly-like consistence is the most malignant form of all, taking as a criterion rapid growth and destruction of life.

Taking it for granted, then, that this is the manner in which a sarcoma is formed, we have the following condition: An adult tissue of connective tissue type that is developed from the mesoblast in a presumably healthy condition, is attacked by some influence which causes it to commence new growth, not as adult tissue which would be impossible, as we know for instance in striped muscle, the embryonic elements, the muscle corpuscles, are there to form new muscle fibres, but as embryonic tissue precisely similar to that from which the adult tissue itself was developed, and after this connective tissue is formed, some type of cell in it is selected and a neoplasm is built up on that type by the division of the cells and the formation of blood-vessels for their nourishment, and further that all these cells are endowed with the property of dividing and reproducing a similar growth when carried to a distance by the blood current, but all the cells of these growths are of the same form and these neoplasms are the most malignant. It would seem, therefore, that the intensity of the influence keeps the cell in an embryonic form, causes its rapid growth and division, and in consequence its malignancy.

If we now consider some forms of sarcoma when the malignancy is not so marked, for instance chondro-sarcoma, we find that the influence starts the growth in the same manner and a neoplasm is formed, but after a time instead of these sarcomatous cells dividing and forming similar cells as they have been doing, they begin to develop tissue of a higher type, and normal at that, as in chondro-sarcoma we have cartilage formed. Sometimes this may be similar to adult hyaline cartilage, sometimes it is similar to fetal cartilage, and in some cases I have found the cartilage developed under these conditions to be exactly similar to that found in the cephalopoda, having branched cells in the lacunæ. Here the influence seems to have been insufficient to cause a continuation of the formation of sarcoma cells, but diverted the growth into normal channels. What this influence may be we do not know, but that it has some connection with development is plain, that is to say, it causes tissues to grow in the same manner in which they were originally developed.

Now, if we examine the cells of the mesoblast we find them all alike. We cannot tell which cell will form cartilage, which bone, and yet they always go on and form that tissue which they were destined to, and when they reach the adult stage they stop there. If, however, they are brought under this malignant influence in their adult condition they begin to divide again and form embryonic tissue, and if completely dominated by the influence they form a growth composed entirely of cells of embryonic type. If, however, the influence is less powerful or becomes exhausted, they go on from the embryonic type and form tissue similar to that which the cells were destined to form from which they sprang. This is a most interesting problem, and I should like to take it up at some future time. It is too extensive for the present paper.

What I wish to bring before you now is the mode of growth of the principal malignant neoplasms, and for this purpose I wish to consider carcinoma with sarcoma, and adopt the following classification:

(1) Epithelioma.
(2) Glandular carcinoma.
(3) Sarcoma.

It seems to me that in attempting any method by which we can arrest these growths, the most important point will be to find out exactly how they obtain their nourishment, and it is this point which has given me the classification I have adopted.

If we now consider epithelioma we have a growth starting from squamous epithelium, the normal function of which is protection. It is placed all over the body as a protection to the tissues underneath, and the number of layers vary according to the amount of protection required, and it is nourished by lymph which passes through spaces between the cells. Normally, therefore, it is a very simple tissue and is avascular. When the malignant influenee is brought to bear on this tissue, it begins to grow, that is to say, the cells divide, new tissue is formed which pushes its way into the normal structures which it was origninally intended to protect. Examining a rapid growth of this kind, that is to say, rapid for an epithelioma, which is always a slow growth, we find processes of epithelial cells pushing into the lymphatic spaces of the normal tissues, and as the neoplasm grows the normal tissues are absorbed, but we find that the histological elements of the neoplasm are similar to those from which it grew, so that we can tell by the appearance of the cells whether, for instance, an epithelioma grew from the epidermis or from the mucous membrane of the mouth. We also find that the new growth contains no blood-vessels but is nourished in a similar manner to the tissue from which it sprung. We have then, in this case, the lymph stream and lymph spaces by which we can reach the growth and exercise a direct influence on it.

Next we will take the glandular carcinomas which are composed of cells derived from epithelium of a highly elaborate type, that is to say, from cells which take from the blood what they require and by virtue of their protoplasm manufacture the different secretions of the body. The neoplasms formed by these cells differ entirely in their mode of growth from those just described. They do not follow the original lines of development but grow inward into the lumen of the different glands and they exercise a direct influence on the surrounding connective tissue, so that a glandular carcinoma consists of a mass of cells supported by a framework of connective tissue in which run blood-vessels and lymphatics for its nourishment. The malignant influence in this case has caused the growth of a mass of polymorphous cells derived from glandular cells but having no definite arrangement, and it has also affected the normal connective tissue of the part, so that numerous fibrous trabeculæ have been formed to make a supporting tissue for the new growth. This framework carries blood-vessels and lymphatics for its nourishment and this connective tissue and these blood-vessels although formed under abnormal influences are perfectly normal in their structure and development.

We have here a different problem to solve. Although this is an abnormal growth it is nourished in a normal manner, as much so as any gland in the body, and the question to be considered is whether we can attack it locally, constitutionally or both. There is one point we must consider. We have here a neoplasm derived from glandular cells. It seems probable that these cells may have some power of secretion, and that the secretion formed by these abnormal cells may be deleterious to the human economy and may account partly for the cachexia we find associated with new growths of this description.

We now come to sarcoma, which differs entirely from the two already described. Here we have a neoplasm derived from tissue which is mechanical in its function, but which under a malignant influence begins to grow and destroy everything in its path. When we consider the manner in which it is nourished we find numerous capillary blood-vessels permeating the growth and lying directly in contact with the cells. Now, the most malignant of these growths are composed of cells formed by rapid division and they are quickly disseminated through the body by the blood current. We know well, however, that cells formed in this rapid manner are cells of low vitality and this is frequently shown in these neoplasms where areas are often found which have entirely lost their vitality. In some forms I have found comparatively large tracts in which the cells and blood-vessels were dead although the vessels were well-defined and yet there was nothing whatever that could be found to account for this loss of vitality. This has been often observed and Butlin has even given a name to these neoplasms. He calls them "degenerating sarcomas."

We have, therefore, in the most malignant forms of sarcoma, neoplasms composed of cells which by their very rapidity of formation promote the means for their destruction, in their necessarily low vitality. This difference between a neoplastic growth brought about by a malignant influence is best understood when we contrast it with a connective-tissue growth brought about by abnormal influence but not malignant. If we take a chronic ulcer of the leg, for instance, and make serial sections of it, we find newly-formed connective tissue growing up and trying to fill up the hole formed by ulceration. This it cannot do as there is something in the ulcer that stops the growth of the connective tissue; that is granulation tissue. At a certain point here it breaks down and becomes pus. Under this, however, the granulating tissue goes on developing until it forms the early stage of cicatricial tissue, that is, bands of fibrous connective tissue with a large number of young connective-tissue corpuscles. After a time another attempt is made and more young granulation tissue is formed which grows until it meets the abnormal influence when it breaks down, and in an old standing ulcer many layers are found showing nature's attempt to repair loss of tissue, but all the tissue formed in every stage is perfectly normal although formed under an abnormal influence. We have the same tissue histologically as that formed in the early stage of sarcoma but the malignant influence is lacking.

What that influence is we do not know and as far as I can see we are no nearer now to a solution of the problem than we were twenty years ago when I commenced studying these conditions. I think, however, that if we take up these different neoplasms with a thorough knowledge of their mode of growth and the manner in which they gain their nourishment we must surely be able to devise some method by which their growth can be stopped, for after all these neoplasms are nothing but an overgrowth of preexisting cells.

In the case of epithelioma a local treatment should be found which would stay the growth of the cells by attacking them through the lymphatics in their earliest stages.

In glandular carcinoma we have the circulation and the lymphatics through which to act and the treatment might be both local and general.

In sarcoma, treatment to be of any avail in the most malignant cases must be adopted the moment the disease is diagnosed. Many cases, however, are not so rapid in their growth and those that take on a normal type of cell are generally amenable to operation and in the hands of a skillful surgeon do not recur.

I hope to see this matter taken up by the profession in Detroit, and I feel sure that if this is done in a careful, scientific manner a means will be devised by which this malignant overgrowth of cells can be stopped.

IS THERE A TUBERCULAR DIATHESIS?*

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One of the most difficult of mental attainments is that of suspended judgment, waiting for more evidence. People love certainty, demand an explanation, are pleased with a dogmatic "It is thus and so."

The man with one idea, who vehemently asserts that it is of world-wide importance, will not lack for hearers. The professional reformer, who traces all moral ills to the use of alcohol, arouses many an echo. The politician who was sure that the demonetization of silver would wreck the business world had many a follower.

Possibly in no walk of life are examples of this more abundant than in medicine. *Similia similibus* cures everything. Hydropathy, osteopathy, electricity—panaceas all. But coming up higher. How many reputable practitioners there are who find in indigestion the source of all our maladies. The ovary crank, who stands helpless before a masculine headache because he has no ovary to trace it to. In no department of medicine have the *certain men* had such a satisfactory range, broad explanation, certain etiology, as in bacteriology. Give them germs and there are not a few amongst us who will explain any disease condition that may arise between the time of conception and death from old age.

Now, unfortunately it may be, the bacteria do have a large place in our affairs. But he who is content with his etiology when he finds specific bacteria in a given disease is satisfied with less than the truth. In studying consumption I have been gradually driven to the conclusion that we are putting too much emphasis on *one* of its factors; that we are becoming content with a *partial* explanation. The tubercle germ does not explain tuberculosis. It does furnish a reason for many of the phenomena of the disease; gives us an insight into the question of its transmission, illumines many a dark corner, provides a rational prophylaxis. But there remains much that is unexplained, much that is still mysterious.

In the infectious diseases the phenomena are those of a combat, a struggle between two opposing forces. On the one side disease germs, insatiate, at times all but innumerable—eating, devouring, poisoning—a pitiless foe.

Opposed, the body tissues, normally well equipped for defense—barrier walls of dead cells, impenetrable membranes, a marvelous ability to repair breaches, a soldiery instantly available—poison and germ-destroying agents, eliminative organs, reserve food and defensive powers.

This fight for supremacy is well shown in tuberculosis. The germ with its poisons killing the near-by cells—producing caseation, destruction. The opposing body forces quickly throwing around the focus of infection a solid wall of connective tissue, which, contracting, tends to shut off the food supply and throttle the invader. If this succeeds the germs die and there remains only a cicatrix to mark the field of battle. Should it happen that the body has but little resisting power, caseation and softening are extensive, while there is little or no formation of connective tissue: giving an anatomical picture so

*Read before the Detroit Medical and Library Association.

different from that we have when there are innumerable tubercles that many of the older writers believed we had two diseases.

Is there a tubercular diathesis? A certain condition of the soil, in the absence of which the tubercle germ cannot thrive? It seems to me that there is. But what that diathesis is, on what chemic or physiologic properties it depends, is as yet unknown. I can only hope to direct your attention to the question and to point out a few of the things that seem to indicate that there is such a condition.

The study of immunity and susceptibility in other diseases has produced much of value, despite the fact that we are for the most part still ignorant of the immediate cause of the one or the other condition. The etiology of any disease is interesting. In many diseases it is very important, because, as a rule, prevention is dependent on a knowledge of cause. Note how our knowledge of etiology enables us to avoid scurvy and lessen typhoid.

No one questions the predisposition to turberculosis consequent on malnutrition, general debility, and the like. But these conditions predispose to all forms of disease. This is not my question. Is there a specific diathesis, such as we have in gout, rheumatism and diabetes? When we study the distribution of the disease and the physiologic and chemic conditions which accompany it we find many interesting things. From these I will select a few that appear to me to have a bearing on the question of diathesis.

Geographical distribution. "The disease is found in all countries. Toward the poles it is rare." This from Osler. Nansen, in his book of arctic travel, reports the disease very prevalent among the Eskimo with whom he came in contact. This is contrary to the report of most authorities. I have tried in vain to get accurate information on this point. Hirsch points out that of all countries the disease is rarest in Iceland. Along the coast where they come in contact with visitors and traders there is some tuberculosis, while in the interior of the island it is practically unknown. This is interesting. Here are people living for a large part of their time huddled together in foul air and in darkness. Place people in Michigan under such conditions and tuberculosis will exterminate them. Note the food of these people. They are practically carnivorous animals. There is less tuberculosis among the rice-eating nations than one would expect to find when we consider the overcrowding, the poverty, and scantiness of food. These are conditions that with us markedly predispose to tuberculosis. The different food has, I believe, an influence. I will refer to this later.

Altitude has far more influence than latitude on the distribution of the disease. The inhabitants of mountainous countries and high plateaus are largely exempt. The rarefied air of high altitudes has less oxygen to a given volume, and deficiency of oxygen is one of our predisposing factors. It has been shown, however, during the last few years, that if the newcomer to the high altitudes is not hopelessly weak, there is a rapid increase in the number of the ed corpuscles and in hemoglobin. All sorts of explanations have been offered or the benefit derived from altitude, such as the increased work forced upon the espiratory system, dryness of the air, ozone, sunlight, diathermancy, absence of septic or putrefactive bacteria, outdoor life.

The zoological distribution of the disease. Although most prevalent in the mammalia, we find tuberculosis all down the animal scale, even among the fishes. During the past year a germ has been found widely distributed on or in plants that so far as its staining and form are concerned seems to be identical with the tubercle germ. A report was promised on the pathogenesis of this germ but in so far as I know it has not yet appeared.

There is much discussion as to the relationship of the germs obtained from the various sources. Most investigators hold that the avian and human germs are different species; others, however, cite cases wherein apparently persons have contracted the disease from birds. A few experimenters, as SMITH, of Harvard, stoutly maintain that the human and bovine germs are different.

The distribution within the body. Formerly it was regarded as a disease of the lungs, and occasionally of the bones and intestines. Now, owing to more careful study and improved methods, we find the disease anywhere, in every organ and in almost every tissue of every organ. No age, no race seems exempt. At first sight it would appear that this wide distribution of the disease argued against any specific diathesis. It may be that this is true; that all that is necessary for the production of tuberculosis is the one factor that we know, the germ, and a weakened, nonresisting soil. But before drawing this conclusion let us look a bit further. The disease attacks many persons who are not weak, who show average resistance and insusceptibility to other diseases. Again, mere weakness does not necessarily predispose to the disease. There follows measles and whooping-cough an increased susceptibility but this is not true of many exhausting diseases. The patient with tuberculosis of the peritoneum is weakened by the abdominal section, but the very exposure and weakening of the tissues in some way produces a condition hostile to tuberculosis, and often we note a disappearance of the disease. Looking again at its zoological distribution we note, speaking very broadly, that carnivorous animals and men are for the most part exempt from the disease. Whenever you find men living largely on meat and fats you find little tuberculosis. The old Scotch physicians commented on the fact that in those districts where butter was plentiful and cheap there was less of the disease. The value of easily assimilated oils in the treatment of the disease is universally recognized. This, however, may have another explanation from that I am looking for. Fats of all foods are most completely absorbed. Again, an ounce of fat utilized in the body liberates about twice as much energy as an ounce of either proteid or carbohydrate; further, the end products of the fat are water and carbon dioxide, both easily eliminated. It is to be noted that carnivorous men, hunters, trappers, and arctic peoples, live under such different conditions from most people that it may be these conditions and not the food that is the determining factor in the case. It seems to me that the food has an influence. Why should the Icelander be exempt from tuberculosis, except for his food? Minnesota formerly had a better reputation as a resort for the tuberculous than had Colorado or New Mexico; thousands went there and recovered from the disease; on the same soil, under the same climatic conditions today the disease is very prevalent. In those backwoods days game and fish were abundant, vegetables scarce; especially during the long winter season meat was the staff of life. In the little, dark, dingy cabin the tuberculous relative from the east certainly scattered an abundance of the tubercle germs. What gave the exemption? Admit for the sake of argument that meat-eaters have some exemption from the disease. Why is it?

For generations it has been noted that the rheumatic and gouty are largely immune to tuberculosis, while in lukemia it is practically unknown. The celebrated English physician, SIR ANDREW CLARK, used to say: "When I was a young man I had to choose between gout and phthisis, and I chose gout." HAIG, in his great book on uric acid, says: "Now it appears to me that the changes in the pulmonary circulation which uric acid produces may completely account for this antagonism between gout and phthisis. For while a man is eating largely of animal food he will have high acidity, his blood will be pretty clear of uric acid, and his pulmonary circulation will be free, but he will have gout because he is storing and retaining large amounts of uric acid." Again: "On the other hand it may be possible, even after the bacilli have obtained a foothold in the lungs, to burn them up and destroy them by taking a large amount of animal food, which as we have seen, keeps the blood free from uric acid, and makes the fires of life burn brightly."

I feel sure that I have seen in a number of cases of tuberculosis improvement, and in some cures, under the administration of nucleins. At first I credited this to some increase in the germicidal powers of the body, and this may be in part the explanation. But of late I have been inclined to believe that at least a part of the effect was due to the nuclein producing a gouty diathesis. It seems to be clearly shown by the investigations of HORBOCHVESKY and others that the nucleins are the antecedents of uric acid.

A year or two ago I attempted to get some experimental evidence on this question by the following experiment:

Twelve guinea pigs were inoculated with tuberculous sputum. Six of them were treated by daily hypodermic injections of sodium bicarbonate. The remaining six with the acid phosphate of sodium. There was no pronounced difference in the progress of the disease in the two sets of animals. I see now that my physiological chemistry was at fault. I intended to hasten the removal of uric acid in one case and to delay it in the other. But the phosphates and the hypophosphites all tend to remove uric acid, so that I entirely missed the point I was aiming at. If there is an antagonism between gout and tuberculosis it would seem that we do wrong when we give hypophosphites in this condition. Looking further into the question of food. A vegetarian diet decreases the acidity of the urine, increases the alkalinity of the blood. The blood of herbivora is poorer in hemoglobin than that of the carnivora. Feed a dog on carbohydrates and his hemoglobin decreases. So, too, there is more oxygen contained in the blood of carnivora. The arterial blood of dogs contains in one hundred volumes nineteen to twenty volumes of oxygen, whereas the arterial blood of sheep and rabbits contains from ten to fifteen volumes.

Again, note the formula for starch $(C_6H_{10}O_5)N$. There is exactly as much oxygen in the molecule as is necessary to unite with the hydrogen. This proportion is true for practically all of the carbohydrates. As the carbohydrates leave the body in the form of water and carbon dioxide it follows that all the oxygen necessary to unite with the carbon atoms must come from without. Two atoms, that is to say, one molecule of oxygen, unite with one atom of carbon to form one molecule of carbon dioxide. Molecules of gases occupy equal volumes; therefore the volume of carbon dioxide formed equals the volume of oxygen inspired.

Note, now, the composition of a fat, stearic acid for example ($C_{18}H_{36}O_2$). The end products of this also are carbon dioxide and water, but of the eighteen oxygen atoms necessary to oxidize the hydrogen only two are present in the molecule; sixteen are taken from the inspired oxygen. In the case of the carbohydrates all of the oxygen inspired must leave the body through the lungs in the form of carbon dioxide, whereas in fat, of the fifty-two atoms of oxygen required for its complete oxidation eighteen leave the body as water, leaving less carbon dioxide to be eliminated, less work for the lungs to do. This is also the case with the proteids. (Albumin in hemoglobin $C_{726}H_{1171}N_{194}O_{211}S_3$). Much more oxygen is taken in than is given back as carbon dioxide. Studying the respiration we find that these figures are true. The respiratory quotient, that is, the proportion of expired carbon dioxide to inspired oxygen is in the herbivora practically one, one volume of oxygen taken in, one volume of carbon dioxide given off. In the carnivora the proportion is about three to four, that is, for every four volumes of oxygen inspired the lungs only have to handle three volumes of carbon dioxide.

There are still other factors bearing on the question. From one-twelfth to one-fifteenth of the carbon dioxide is carried from the tissues to the lungs in solution. The rest of it is in chemical combination, principally with the salts of sodium. In the tissues dibasic sodium phosphate (Na_2HPO_4) gives up half of its sodium to the carbon dioxide, forming sodium bicarbonate $HNaCO_3$ and (NaH_2PO_4) acid sodium phosphate. In the lung the bicarbonate gives up the carbon dioxide and the dibasic salt is reformed. The acid sodium phosphate is eliminated by the kidneys, giving the normal acidity to the urine. According to our present theories sodium chloride is in some way the source of the hydrochloric acid in the gastric juice. Now, when in solution in the blood the potassium salts tend to displace the salts of sodium. If we bring together solutions of potassium carbonate and sodium chloride there is a partial exchange; chloride of potassium is formed and carbonate of sodium. If we continue to add salts of potassium to the blood we rob the body of its sodium chloride, that which is necessary for the formation of gastric juice, for the solution of the globulins and the like, and there accumulates potassium chloride, which seems to be of no use in the body, and sodium bicarbonate, rendering the blood more alkaline.

Many vegetable foods contain a large excess of the potassium over the sodium salts. This is notably the case in rye, potatoes, peas and beans. These do rob the blood of its sodium salts and cause the craving that we have for salt with such food. The salt added to our food apparently compensates for that removed, but it entails more work on the kidneys and probably on the lungs. Rice contains only one-twenty-fifth to one-thirtieth of the amount of potassium found in the potato. It may be a mere coincidence, but, as I pointed out before, there is not as much tuberculosis among the rice-eating nations as one would expect.

The antagonism between leukemia and tuberculosis is suggestive. In leukemia there is always an excess of uric acid. The alkalinity of the blood is diminished. This we would expect when we find nucleated red blood corpuscles and the enormous increase in the white cells. Leukemia is characterized by the undue multiplication of certain types of cells. Leukemia gives a practically perfect immunity to tuberculosis. Therefore, the argument is a fair one, although not conclusive, that failure to produce the normal number of these cells or their products will produce a condition the opposite from immunity, that is, susceptibility. It may be well to note here that authorities on the blood, such as CABOT, state that a large proportion of the white cells found in the leukemic blood have no ameboid movements. They are not phagocytes, and the inference is allowable that the antagonism to tuberculosis is not due to increased phagocytosis. These cases often die of pneumonia or septicemia; therefore, we may argue that there is no increase in general resistance or insusceptibility. There is a particular something antagonistic to tuberculosis, strengthening, it seems to me, the argument that, in conditions physiologically opposed to that we have here, there is a special influence somewhat favoring tuberculosis—if you please, a diathesis.

There are some interesting things to be noted regarding the blood in tuberculosis. Contrary to the generally held opinion there is usually no anemia. OSLER speaks of the early anemia. They look anemic, but if we can accept the statements of those who have carefully studied the blood during the last few years this is a deception. CABOT says: "Pure tubercular disease itself, whatever its seat, has little or no effect upon the blood." Again: "The striking fact is the absence of such anemia as we should expect, judging from the pallor of the patients and the nature of the disease. It is common to find a normal or even increased number of red cells in pale, cachectic-looking consumptives. * * * It is undoubtedly the fact that in most cases of tuberculosis, even in advanced stages, the count of the red cells is approximately normal. Often the hemoglobin is also high."

In the white cells there are usually no quantitative changes, but while the number of the cells may be normal, in many cases there is a preponderance of young cells, indicating a sluggish cell development. NEUSSER states that by using a modification of Ehrlich's stain we will find in gout, leukemia and those diseases showing a uric acid diathesis, a group of dark-blue stained granules around the nuclei of the mononuclear and over and around the nucleus of the polynuclear leucocytes. He says that whenever these are found tuberculosis rarely occurs, or if tuberculosis does coexist the tubercular process tends to cicatrize and heal. He concludes that the presence in the system of an excess of aloxan bases (xanthin, uric acid, et cetera) make it hostile to the reception or spread of tuberculosis.

The mortality from tuberculosis in prison is markedly high. The mortality among civilized peoples is usually reckoned at one-seventh, that is, fourteen or fifteen per cent., but the death rate from this disease in prison is often forty to fifty per cent. Why? A ready answer is, infection, bad air, confinement, general debility. Let us look at this closer. It is noteworthy that the mortality reaches its maximum only in the later years of confinement. Now, if bad air and infection are the essential factors the highest death rate should be during the first years of confinement, but it is not. I do not believe that general debility will explain it. In most of our prisons, where the men have regular, systematic work, and hours, the general health is good. Note the food. The cheapest that will maintain life and strength; that means beans, peas, potatoes, cabbage and the like.

Now, I would not be understood as believing that the explanations I have offered and suggested are the only ones, or even the correct ones. I have brought them forward if they seemed to bear on the question, irrespective of whether I believed them or not.

So I am not contending that we should all become carnivora; that condition would be followed by its train of ills, possibly greater than those we have by living as we do. My contention is simply that because there is a hill there must be a valley; because there is a diathesis that gives some immunity to tuberculosis there must be a physiologically opposite condition, a diathesis that favors the disease. Fortunate will be the day when we know what that diathesis is; on what physiologic or chemic properties it depends.

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SHOULD RETROVERSIONS OF THE UTERUS ALWAYS BE CORRECTED? *

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I use the term retroversions to symbolize all backward displacements of the uterus, inasmuch as in the great majority of such conditions the version so greatly overshadows any flexion that may coexist with it. All retroflexions of the uterus are, soon or late, complicated by some degree of version, and it is equally true that retroversions of the uterus seldom exist without more or less flexion. I ask the question, then, Should retroversions of the uterus be corrected? And I answer: Always. By this answer I am aware that I place myself in direct antagonism to the judgment of a large number of honest and capable practitioners, but I unhesitatingly reaffirm my belief that all cases of retroversion of the uterus should be corrected.

It must not be understood that I use the word "all" in its strictly literal sense, inasmuch as exceptional cases may occur when the physical condition of the patient is such as to contraindicate any attempt at radical correction of the displacement. But when no marked contraindication exists, all pronounced backward displacements of the uterus should be radically corrected. And why? Because all such displacements tend to the creation of conditions which at present, or in the future cause serious and increasing discomfort to the patient, or which may ultimately seriously impair her health. And how? In accordance with well-known and fixed mechanical and physiological laws. That uncomplicated retroversion of the uterus is a disease, I will not contend. That it is abnormal all must admit. It is a luxation as much as a dislocation at the shoulder-joint is a luxation, but unlike luxation of the head of the humerus, luxation of the uterus tends to the establishment of disease, not only of itself, but of other organs, more especially of the ovaries.

Bear in mind, if you will, the position of the uterus, at the roof of the pelvis, and its relation to the broad ligaments and ovaries. It is held loosely in place by the combined restraint (if I may use this term) of several forces, but by the rigid influence of none. That is, when anatomically and physiologically normal,

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*Read before the Grand Rapids Academy of Medicine.

it is markedly mobile, yielding easily to the various movements of the body as well as to the variations in intraabdominal pressure, always being restored to its normal position by the combined influence of its various supporters—its ligaments, the vagina and perivaginal tissue, the bladder and intraabdominal pressure. Among these, intraabdominal pressure occupies no inferior position. Its influence in maintaining the uterus in its position of physiological anteversion is pronounced. But let the uterus become so dislocated by any force—the pressure of an over-distended bladder, or a fall—that the direct force of intraabdominal pressure impinges upon the anterior surface of the fundus of the uterus, and trouble begins. Nor is it quiescent trouble as our optimistic brethern would have us believe, but rather one that from the fixed nature of the laws that govern the anatomy and physiology of the pelvic organs, must necessarily increase. The increase may be so gradual in some cases that the system, to a certain extent, adapts itself to it and the disturbance which results is comparatively mild, or it may be so severe as to rapidly result in complete invalidism. The same pelvic disturbances do not cause the same manifestations, neither local nor general, in all cases, any more than does normal pregnancy, which in one may seriously endanger life by the systemic disturbance which it creates, while in another it will cause no change other than apparently improved health. No two individuals react to the same stimulus or the same irritation alike. But in every individual does pronounced retroversion of the uterus ultimately cause local or general disturbance. Cases suggest themselves to the memory of each of us wherein marked retroversion exists with no apparent symptoms, wherein the patient can perform the duties of life and enjoy its pleasures equally with her more fortunate friends. These are the cases that are cited as unanswerable arguments by those who contend that retroversion, in itself and uncomplicated, is not a disease and merits no attention. But even these patients have suffered from a sense of discomfort sufficient to force them to submit to an examination, or the retroversion would not have been discovered. Therefore, I must again state it as my belief that no marked retroversion of the uterus can exist without resultant physical disturbances, local or reflex, or both.

In a marked retroversion (of the third degree) the anatomical relations of the uterus are entirely changed. The cervix is up under the bladder and the fundus back in the pelvis, almost opposite its normal location. This results *necessarily* in tension on the nerves supplying the uterus and in torsion and bending of the veins and lymphatics of the broad ligament. It cannot be otherwise. The inevitable result of this is interference with their circulation. This is not mere assertion nor theory, but is a necessary mechanical result of the displacement of the fundus of the uterus. What is the result? That which occurs in similar conditions in any other part of the body, venous and lymphatic engorgement of the organ. This condition gives rise, soon or late, to local and reflex manifestations. With all due deference to our friends, the neurologists, I shall in this connection use this time-honored term "reflex," because to our uneducated intelligence it expresses what we mean, namely, that the point of disease or irritation is in the pelvis, and the effect of the irritation is in some other part of the body, the path of communication from cause to effect being through the nervous system.

Continued venous and lymphatic engorgement of the uterus will cause more or less exudation and formation of new tissue—areolar hyperplasia—one result of which is more or less irritation of the terminal nerve fibres with which the uterus is supplied. Another condition which very generally results from this venous hyperemia is engorgement of the mucous membrane and ultimately chronic catarrhal endometritis. It is not necessary to minutely particularize the various steps by which this condition is established, inasmuch as it is self-evident how it would naturally result from long continued venous engorgement.

Apart, then, from the ultimate local manifestations which would naturally result—heaviness, leucorrhea and probable dysmenorrhea—we should have certain reflex disturbances which almost invariably result from the inevitable irritation of the nerves of the uterus, which occurs where the condition is one of chronic metritis and endometritis. These reflex disturbances vary in degree according to the degree of susceptibility of the individual. Nor are they entirely the result of the retroversion itself, but rather of the conditions which necessarily follow and are caused by the retroversion.

The ovaries are almost invariably involved in all retroversions of the uterus. That this must be true is evident from the anatomical relations of the uterus and ovaries. When the uterus is badly displaced the ovaries are invariably dragged down with it, and, like the uterus, become engorged with venous blood, the natural result of which is hyperplasia and ultimately cirrhosis. With the local and reflex disturbances arising from ovarian irritation, you are all more or less familiar. Long continued downward displacement of the ovary gives rise to chronic congestion and consequent progressive degeneration of the organ, with resultant increasing nervous manifestations. The hyperplastic changes that may have occurred in an ovary which has been a long time displaced, cannot be removed without removal of the organ, but the degenerative processes may perhaps be checked by restoration of the ovary to its normal position. Therefore, if chronic retroversion of the uterus, with or without the consequent displacement of the ovaries, gives rise to serious discomfort to the patient, a discomfort which increases as time advances, it is your duty, as guardian of that patient's health, to restore the uterus and ovaries to their normal position, provided always, that it can be done without serious risk to life. My claim is that, in uncomplicated cases, this can be done, not by pessaries, but by Alexander's operation, modified to suit the conditions in each case.

I do not advocate pessaries, because I do not believe they can be relied on to permanently cure any case of chronic retroversion, and I do not think it right to incompletely remedy one discomfort by supplanting it with another. Nor do I think it right or consistent, with the advances made in medicine and surgery, to subject any patient to bondage to a pessary.

Pessaries may be useful for temporary relief, and to demonstrate that restoration of the uterus to its normal position will greatly relieve the suffering, but for permanent relief surgery must be invoked.

Perhaps the most promising among the nonsurgical resources on which many rely for the permanent cure of retroversion, is pregnancy, but I venture the statement that this fails much oftener than it succeeds. A retroflexion with but slight version is generally cured by pregnancy. A marked retroversion, with but slight flexion, seldom.

I have said that in uncomplicated cases Alexander's operation is the one of choice. I reiterate this, inasmuch as it is the operation that restores the uterus most nearly to its normal position. It may be said that suspension of the uterus does this equally well, but suspension involves opening the abdominal cavity, and this adds a risk from which Alexander's operation is free.

Alexander's operation, modified by shortening the utero-sacral ligaments or in any other way to meet the indications in any case, is practically devoid of danger. Its results are lasting. The objection that it is difficult to find the ligaments does not hold good in the light of modern methods. The objection that it has often been followed by hernia is based on the use of a faulty technique, and I believe I am justified in saying that it can be so made as to reduce to a minimum, if it does not entirely obviate, the possibility of hernia.

When the retroversion is complicated by disease of the appendages, and ovaries and uterus are fixed in their abnormal position by adhesions, it becomes necessary to open into the peritoneal cavity, either through the vagina or the abdomen. This is a more severe operation and involves a certain risk of life, but in the hands of an experienced operator the risk is so slight as to prove no especial contraindication in our efforts to relieve the suffering to which the patient is almost invariably subject. I therefore reiterate that in all such cases, unless the physical condition of the patient is such that any operation would involve serious risk to life, the retrodisplacement should be radically corrected by means which will enable you to remedy, as far as is possible, all abnormal conditions.

It is in such cases that suspension of the uterus, through an abdominal incision, to my mind meets the indications most fully, as by it you not only correct the displacement, but are able to treat the diseased appendages, removing them wholly or in part, as may be necessary. The technique of these various operations, as I now make them, I cannot in this paper describe, but whether by an Alexander's operation or by uterine suspension the most perfect results are obtained, depends entirely on the perfection of the technique practiced.

TEMPERATURE IN DISEASE.*

By FREDERICK McD. HARKIN, M. D., MARQUETTE, MICHIGAN.

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THE importance and much of the significance of elevation of temperature or pyrexia was well known to our ancient father, HIPPOCRATES, but like many another of his wise observations, its clinical value was lost to the profession until the general use of the perfected clinical thermometer in the present century resulted in the acquisition of a vast fund of bedside deductions which, for diagnostic and prognostic significance, are of the utmost importance.

THEORETICAL MECHANISM OF ABNORMAL TEMPERATURES.

Research into the alterations of physiological activities which produce alterations of body temperature has developed a certain knowledge that has been formulated into an almost proven theory which, in our treatment of abnormal temperatures, it would seem well to bear in mind. According to

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*Read before the UPPER PENINSULA (Michigan) MEDICAL SOCIETY at its Iron Mountain meeting.

MacAlister, there enters into the mechanism of temperature alterations three factors—

(1) Thermògenic or fever-producing,
(2) Thermolytic or fever-dissipating, and,
(3) Thermotaxic or fever-controlling.

Further, these functions are presided over by nerve centers situated in the caudate nucleus and vicinity, and in the medulla and cord.

In normal conditions, there is supposed to be an exact counterbalancing of these functions of producing, dissipating and controlling whereby, an almost uniform body temperature is maintained.

In many diseases this delicately adjusted mechanism becomes affected or disturbed, giving us for effects abnormal temperatures.

Welch asserts that often there is as much heat generated in health as in disease, as for instance during vigorous exercise, but that the thermotaxic mechanism maintains the balance between production and dissipation, and therefore a normal temperature.

Thermogenesis or heat production is supposed to be chemical in its nature, and is a process of combustion or oxidation of tissue, and it is estimated that four-fifths of the body heat in health, and in disease a larger proportion is developed in muscle tissue and the remaining one-fifth in the alimentary canal and secreting glands.

Thermolysis or heat dissipation is maintained by the skin and the lungs in the ratio of four to one, the blood-vessels and sweat glands of the skin being governed in their action by vasomotor centers in the cord and medulla.

The assumption of a thermotaxic center, insomuch as its existence has not yet been satisfactorily demonstrated, seems to me to be altogether superfluous, because lesions of the centres of thermogenesis and thermolysis can well account for all the phenomena of abnormal temperatures, and why not say that thermotaxis or heat control is self-existent in the centres, and of course is disturbed during altered conditions of those centres.

Thus it seems reasonable to conclude that abnormal temperatures of disease results from a maladjustment of the processes of heat production and heat dissipation.

Etiology.—Now, having ascertained that certain altered conditions of nerve centres produce abnormal temperatures, let us inquire into the more proximate causes which disturb the function of those nerve centres. These may be classified briefly as traumatic, reflex, and toxic. In traumatic injuries of the medulla and cervical sympathetic we have many recorded instances of hyperpyrexia, whilst in reflex disturbances I myself have seen a little child with convulsions and an axillary temperature of 105⅖° vomit a large lumbricoid worm and settle back to a normal temperature within a half hour.

It is a noteworthy fact, however, that the third element of causation—altered blood conditions—which for want of a better name we shall call toxic, comprise the great majority of all the cases we meet with in the routine of professional life.

AND WHAT MAY BE THESE ELEMENTS OF TOXICITY?

(1) Chemical agents, such as (a) alcohol and narcotics, producing a coma characterized by subnormal temperatures; (b) carbon dioxide, producing the subnormal temperatures of emphysema, asthma and certain cardiac lesions.

(2) Normal excretory products absorbed as a result of suppression of feces or urine.

(3) Ptomains, leücomains, and other products of imperfect metabolism of food or tissues.

(4) Bacteria and the toxins produced by them.

After the invasion of the blood current by one of these toxic agents pyrexia is most frequently the result. There is, however, a prodromal period of variable duration until the resistance of the centres is overcome and announced by a series of chilly sensations or a severe chill.

Now, lesions of nerve centres are either irritative or destructive, and H. C. **Wood** has demonstrated that in dogs irritation of the heat-producing centre is followed by inhibition of thermogenesis, and that destruction of the centre or suspension of its function results in increased heat production. So, also, may it not be that an irritative lesion of the heat-dissipating centre first causes increased theomolysis, and that complete suspension of function results in diminished heat dissipation. Thus an irritation of both centres simultaneously could not but produce chills, and increased toxicity with complete arrest of function could not but produce the phenomena of fever. And thus according to the degree of virulence of the invading toxin do we get ranges of temperature which are more or less characteristic of the different diseases.

Diagnosis.—This brings us to a few words concerning the use of the thermometer in diagnosis. We all know the importance of a series of evening temperature observations in masked incipient tuberculosis, as also that of regular records in the detection of malaria. We are also well acquainted with the initial high temperature of pneumonia, and have frequently detected complications during convalesence by the warning sign upon the temperature chart. The rising increase of evening temperature during the invasion of typhoid fever is almost pathognomonic, and subnormal temperatures have frequently aided in the diagnosis of brain abscess as well as in that of alcohol and narcotic poisoning. A sudden change of temperature during the progress of a case of pleural effusion may prepare us for an empyema, and how frequently are we able to diagnosticate the existence of inflammation and pus exudates by the temperature record alone. Further, it might be affirmed that the thermometer is the watch dog of the puerperal woman as well as the alert guardian of those who have undergone surgical operation.

And then, too, think of the vast field of human ills which are at once excluded from the mind of the diagnostician by the simple negative evidence of the clinical thermometer.

Prognosis.—For use in prognosis we have learned the danger lines of temperature variations, and often if we cannot save our patients we can help save our reputations and sometimes, fortunately, both. In illustration of this I was once called to see a pneumonic patient that had just been pronounced moribund by two of my confreres. The history indicated the eighth day of the disease, the thermometer recorded a slightly subnormal temperature, and although the patient was at the time profoundly comatose I felt justified in giving the favorable prognosis which a prompt recovery under heart stimulation and free oxygen speedily confirmed.

Treatment—There seems to have been, for some years at least, a general agreement upon the treatment of abnormally low temperatures, namely, removing or neutralizing the cause if possible, as in narcotic poisoning, together with the application of artificial heat and heart stimulation. But in the matter of treatment of abnormally high temperature there seems at present to be a general tendency amongst the profession to greatly limit the use of antipyretic remedies, reserving such agents for continued hyperpyrexia or when more logical methods fail. There would seem to be reason for this action in view of the experiments of KAST, who has shown thereby that few germs can withstand a temperature of 104°, and moreover that dogs infected with typhoid poisoning and kept at a temperature of 36° centigrade died, whilst they lived if kept at a temperature of 40° centigrade. *Per contra*, we know that the leucocytes or hearth-defenders of the citadel of life also die in a short time if subjected to a temperature over 106° Fahrenheit, and thus are we admonished to take measures accordingly. Personally, I endorse this idea of the conservative use of antipyretics and devote my attention principally to—firstly, maintaining cool jugulars and a cool cerebrum; secondly, increasing elimination by stimulating the functions of excretory organs; thirdly, attacking the germ when such is the offender, locally by antiseptics, and neutralizing its toxins when possible by nucleins and antitoxins; fourthly, supplying energy and compensating for tissue waste by proper alimentation; fifthly, keeping excessive temperature within the danger line by the liberal use of water internally and externally, and the occasional stimulation of thermolysis and by diaphoretics such as chloroform, aromatic ammonia and nitric ether, and administered, if possible, with a little whisky and hot water.

The proper therapeusis under these different headings is too lengthy for discussion here, besides being for the most part self-suggestive to the practitioner of modern medicine.

TUBERCULAR MENINGITIS.*

BY GEORGE E. McKEAN, M. D., DETROIT, MICHIGAN.

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MENINGITIS in its various forms is one of the most interesting and important diseases of children, and is not uncommon among adults. J. LEWIS SMITH says that the mortuary statistics of New York City show that it is the cause of death in from one in twenty-three to one in fifty of the whole number of deaths, the proportion varying in different years. Of the many varieties, we make a general classification of tubercular and non-tubercular. Non-tubercular, sometimes called suppurative meningitis, most frequently follows aural or nasal disease or cerebral traumata, but is occasionally traced to purulent pleurisy, pneumonia, erysipelas, carbuncle, erythema nodosum, et cetera.

Tubercular meningitis, of course, results from the presence of tubercles which set up an inflammation in the pia mater in the same way that they do in the lung or pleura. It has been recognized as a distinct affection for almost two centuries. For a long time it was believed to be a dropsy, and was called acute hydrocephalus. In 1827 GUESSANT gave it the name of granular meningitis. He taught "that hydrocephalic patients were consumptives dying through the brain." But it is to one of our own countrymen, DOCTOR GERHARD, and to M. **Rufz** who, together in 1832–3, conducted investigations in the Children's Hospital in Paris, that the credit belongs of having demonstrated the dependence of the disease upon tubercles of the pia mater. The bacillus itself, of course, was not found until much later. Tubercular meningitis is more common than suppurative meningitis, most cases occurring between the second and seventh years.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The *pathological changes* are largely limited to the pia mater, which is often found firmly adherent to the brain at the seat of the inflammation. Tubercular meningitis is generally basilar, but may extend along the sides of the hemispheres. It is most intense around the pons, in the subarachnoid space and along the fissures of Sylvius. **Osler** says: "There may be only slight turbidity and matting of the membranes and a certain stickiness with serous infiltration, but more commonly there is a turbid exudate, fibrino-purulent in character, which covers the structures of the base, surrounds the nerves, extends out into the Sylvian fissures, and appears on the lateral, rarely on the upper surfaces of the hemispheres. The tubercles may be very apparent, particularly in the Sylvian fissures, appearing as small white nodules on the membranes. They vary much in size and number and may be hard to find. The lateral ventricles are dilated and contain a turbid fluid. The ependyma may be softened while the septum lucidum and the fornix are usually broken down. The convolutions are often flattened and the sulci obliterated, owing to the increased intraventricular pressure. Histologically the tubercles are seen to develop in the perivascular sheaths, producing circumscribed aggregations of lymphoid and epithelioid cells. The lumen of the vessels may be narrowed and thrombosis may result. In some cases the spinal meninges are also involved, especially those of the cervical cord."

Symptoms.—In describing the symptoms I will give those found in the most common cases, namely, those of children. In a large majority of cases there are marked prodromes. The child is noticed to grow thin, becomes crabbed and touchy, has an irregular appetite. Sleep is disturbed. Frequently in its play it will stop and complain of being tired. If old enough it will complain of headache, or if younger cry out with pain occasionally, putting the hand to the head, or if in the mother's arms, press the head hard against her breast. It may complain of bright light or loud noises. If old enough it may speak of being dizzy; if not, those about them may notice a staggering gate at times. Temperature may or may not be slightly elevated at this time. These prodromes may cover a period of a few days or weeks. Then comes the more marked symptoms of the second or irritative stage. Vomiting is common and occurs independent of the taking of food. In every one of the cases that I have seen this symptom was present, but in none of them was the vomiting frequent. Constipation is the rule. The headache becomes more severe. The temperature increases but is irregular, varying from 100° Fahrenheit to 103° Fahrenheit. The pulse at first rapid becomes slow and irregular. The respiration also becomes irregular. The pupils, during the irritative stage are contracted, but later they become dilated and fixed. Sight may fail at any time. A blotchy erythema makes its appearance, especially on the face, but is transient in character, coming and going in a few hours. The muscles of the face will be seen to twitch, and there is likely to be a gritting of the teeth. Convulsions are not uncommon, may come on at any stage of the disease. There is more marked dread of the light and the eyes may squint. A frown is noticed almost constantly on the face. After frequent naps the child will awaken suddenly, crying out as if in pain. The hydrocephaloid cry is spoken of as common to these cases. I have not heard it in any of the cases I have seen. Urinary secretion is scant. Emaciation is much out of proportion to the length of the illness. Gradually the child becomes more dull, no longer complains of headache, becomes harder to arouse, and when partially aroused is apt to be delirious. The vomiting subsides. The bowels may still be constipated, or there may be involuntary evacuation due to paralysis of the sphincters. The abdomen is retracted. There may be hemiplegic or complete paralysis. As the end approaches the pulse grows weaker and more rapid, and the breathing takes on the Cheyne-Stokes type. The temperature may be much subnormal or very high. After death seems imminent these patients often last days. The symptoms at any time may be much modified by tubercular affections elsewhere. The duration of the disease is from two to four weeks. Occasionally it runs a much shorter course, and again it may be chronic in character.

Diagnosis.—The diagnosis of tubercular meningitis is relatively easy when the meningeal symptoms appear in cases that are suffering from tuberculosis in other organs. When such is not the case and when there is not a marked hereditary taint, it is sometimes very difficult if not impossible to differentiate simple and tubercular meningitis. Sometimes an examination of the eye ground makes the diagnosis easy, especially if tubercles can be found in the choroid. This, however, is rare. GOWERS says: "The disk at first becomes full colored and has hazy outlines, and the veins are dilated. Swelling and striation become pronounced, but the neuritis is rarely intense." GASTWICK reports the condition of diagnostic value in six out of twenty-six cases. Generally the diagnosis, in the absence of above evidences, is made by exclusion, the principal things to be excluded being autointoxications, typhoid fever, simple cerebro-spinal and syphilitic meningitis, uremia and the hydrocephaloid state.

Autointoxications are differentiated by the continuation of the symptoms after establishing of general elimination.

Typical typhoid is easily recognized by the temperature curve, but when atypical the diagnosis cannot be absolute during the first week. Usually the prodromes, the constipation, absence of tympanites, the irregularity of the temperature, and later the character of the eruptions makes the diagnosis clear.

In simple meningitis there are no other tubercular lesions—usually no marked tubercular family history. Prodromes are lacking, temperature is higher and the disease runs its course more rapidly.

Cerebro-spinal meningitis during an epidemic differentiates itself. The solitary cases are excluded by absence of prodromes, rapid development, the petechial rash and marked spinal symptoms.

Syphilitic meningitis is recognized by the history, either individual or family, the rash, snuffling early in life, Hutchison teeth—if any, collapse of the bridge of the nose, and above all by rapid improvement under mercurials.

Uremia is thrown out by careful examination of the urine, and later by lack of organic symptoms.

The hydrocephaloid state may be difficult to differentiate in the beginning, but usually the history of some acute disease, especially some trouble of the stomach or bowels, will make the diagnosis clear.

Prognosis.—This is even more unfavorable than tuberculosis in other structures, as here a much more valuable point is attacked and one which we still regard as out of surgical reach. Some recoveries are, however, reported. GUERSANT, RILLIET and BARTHEZ each report recoveries. ABRAM JACOBI claims that he has seen two cases that recovered. Some cases that have apparently gotten well, soon relapse and die. In those rare cases that do live, the question always remains open as to whether they were really tubercular. As will be seen in one of the cases I report, there was recovery.

Treatment.—The treatment, in cases that are undoubtedly tubercular, must be general supporting measures. Good nourishing and stimulating food, removal from anything that would excite or irritate the patient in any way—such as strong light, loud noises, et cetera. Elimination should be looked to. Cod-liver oil internally and by inunction, nuclein preparations and arsenic with bromides to control restlessness, pain, and convulsions, will probably do all that can be expected of medication. In cases wherein there is doubt as to whether one is dealing with the simple or tubercular form, it is certainly the best plan to give the patient the benefit of the doubt and treat as simple meningitis. Here potassium iodide employed early and often has probably given the best results. At least twenty grains a day should be administered to a child two years old. Ergot is used by some. The bromides should be given from the beginning. I prefer the bromide of sodium as it seems to be better borne by the stomach. The dosage must vary according to the amount of pain and restlessness. In case of convulsions, chloral combined with the bromides and given per rectum, should be administered in sufficiently large doses to control them, whatever that amount may be. Morphia is recommended by some good authorities. Bathing should be resorted to if fever is high. Ice caps and blister are used by some, but it is an easy matter to overdo these harsh measures. Nothing in our materia medica seems to have any effect on the deep coma that precedes death.

Following is a report of three cases, one of them typical:

C. H., male, aged two and one-half years. Family history good. No near history of tuberculosis. Of children's diseases he had had only measles. This was when he was a year old. He had a mild attack and apparently made a good recovery, but at no time after this did he show the vitality common to children of that age.

In February last, I saw him for the first time. He had a mild attack of urticaria which subsided in a couple of days, but recurred in a few weeks. Again only mild. In the last of May, he came down with a severe attack of capillary bronchitis, lasting ten days. Again apparently a complete recovery, after a convalescence that was perhaps a trifle slow. He had night sweats and rough bronchial breathing for some time, which disappeared entirely in two weeks. The child regained his usual flesh, his cheeks became rosy, and except that he would occasionally complain of being tired, was as well as before the attack. Several times after he had seemingly regained his strength the mother noticed him bumping himself on the doorjams as he passed through.

On July 14 the mother brought him to my office saying he was not ill but was fretful and tired. His appetite was irregular, sleep disturbed—awakening suddenly and crying out, as if frightened. He was constipated, tongue slightly coated, but pulse and temperature were normal. I concluded the disturbance was an autointoxication and prescribed tablets of calomel, ipecac and soda, and told the mother to let me see him the next day, which she did. There was no improvement. His bowels had moved once, but not freely, and he had vomited once without apparent reason. He had passed a restless night. Temperature 99 3-5° Fahrenheit; pulse 90. I directed a continuation of the tablets, to be followed by castor oil, and gave sodium bromide for the restlessness.

July 16: The bowels had not responded to the tablets and oil, so I gave an enema which brought away with other material quite a quantity of raspberry seeds, and gave much apparent relief, allaying my fear somewhat as to the probability of meningeal trouble. Toward evening, however, the patient grew worse. Temperature 101° Fahrenheit; pulse 110; very restless. He complained of pain in various places, but in no one place in particular, and showed a little sensitiveness to light and was easily irritated. He vomited once.

July 17: Patient more drowsy than before. Temperature, morning, 100° Fahrenheit, which increased to 101° Fahrenheit in the evening. Pulse 100 to 120. Bowels still constipated, but moved after using the oil and an enema. Odor of stool very offensive. No more seeds. Still regarding the autointoxication theory as a possibility, I pushed elimination and prescribed Wampole's compound extract of cod-liver oil. This was not retained by the stomach.

July 18: The pulse became slower and irregular. Photophobia more marked. I made a diagnosis of meningitis and gave potassium iodide, two and one-half grains, every two hours; also Aulde's nuclein solution, two drops, every two hours, and continued the bromide of soda.

July 19: Temperature variable, 101½° Fahrenheit, being the highest point reached. Pulse 60 to 90, very irregular. Respiration also irregular.

July 20 and 21: No marked change. I gave an unfavorable prognosis as I regarded the case tubercular.

July 22: Stupor increasing. Pain in head very severe at times. Pupils dilating equally. Temperature 102° Fahrenheit about all day. Sight somewhat blurred.

July 23: A convergent strabismus was first noticed. Patient complained continually of his eyes, though the room was kept well darkened all the time. Pulse more irregular. Temperature 102° to 102½° Fahrenheit. Abdomen slightly retracted. There was some twitching of the muscles of the face, also grinding of the teeth while asleep.

July 24: Sleep very deep in the morning, but in the afternoon there was apparently some improvement. Pulse 90 and more regular. Patient took nourishment well and was much brighter. The temperature, however, remained the same.

July 25, 1 A. M.: Spasm lasting two and one-half hours. Pulse ran up to 140. Later was imperceptible at the wrist for almost a half hour, but gradually grew stronger during the day, most of the time running about 100. Temperature 102½° Fahrenheit. Patient tossed about a great deal, although in a stupor. Tendency to spasm was controlled by repeated rectal injections of chloral. Toward night the pulse grew very weak and rapid and death seemed imminent, but this condition continued unchanged, except that the coma became complete, until his death on the morning of the 29th. Temperature ran as high as 105½° Fahrenheit previous to death. Emaciation was extreme, notwithstanding the fact that he took nourishment well until the last four days of his illness.

I am sorry to say that no postmortem was allowed in this case. My diagnosis of tubercular meningitis was made from the prodromes, slow onset, low temperature in beginning, the marked emaciation and the prominence of the eye symptoms, but of course could not be sworn to.

DOCTOR DOUGLAS saw this case with me several times, and his counsel, backed by his large experience, was much appreciated.

Case II.—E. C., a female, aged eight years. There was a history of tuberculosis in several members of the mother's family. Father's family history good. Had the usual children's diseases, from all of which she made good recoveries.

I saw her first in December, 1894, when she was suffering severely from sharp stabbing pains in the abdomen, which was quite tympanitic and sensitive. She could not bear the weight of the bedclothes. Tenderness was not localized. Pulse rapid; temperature 99° Fahrenheit. I relieved pain by external applications and codeina, evacuated the bowels with salines, kept her quiet, and in a few days she recovered, only to have repeated attacks of the same nature at irregular intervals for three months. This in spite of the best of nursing, dieting, et cetera, and the attention of several different physicians who saw her at different times with me. The opinion of most of us was that these were attacks of tubercular peritonitis. I at one time advised operative measures which were promptly refused. Our diagnosis was apparently confirmed by the appearance of lung involvement, and in March tubercle bacilli were found in the sputa. In April she showed involvement of the meninges, became drowsy and had severe pain in the head. Pulse slow and irregular, running as low as 70, where formerly it had been 120 to 130. No convulsions. Head retracted some for a day or two. After this condition had continued for several days, without apparent reason, and certainly much to my surprise, she commenced to improve and came up gradually, but almost constantly, until in July when she was seemingly as well as she had been before the attack, although not quite so strong. Since that time I attended her in a severe attack of croupous pneumonia when she again astonished me by getting well. I saw her a month ago. She is in good health.

The treatment in this case was cod-liver oil internally and by inunction, the iodides in various forms and protonuclein.

Case III.—E. S., a female aged twenty-five years. Family history good. Seen first in June, 1896. Symptoms and cause of disease almost a duplicate of above case, except that I was not able at any time to find bacilli in the sputa. In October, when apparently improving, she fell out of her chair in a convulsion, after which she suffered constant pain in the head. Sight gradually failed, strabismus appeared. The pulse became slow and irregular, respiration interrupted and sighing in character. Coma came on gradually, and in two weeks after the convulsion she died.

A partial postmortem showed tubercular deposits in large numbers in the mesentery and liver. The intestines were matted together and there were adhesions everywhere. I was not allowed to go farther with the postmortem, but there was no doubt in my mind that the immediate cause of death was tubercular meningitis.

THE PHYSIOLOGICAL FUNCTIONS OF THE LIVER, WITH THEIR RELATION TO THE DIGESTIVE PROCESS.[*]

BY E. D. RICE, M. D., FLINT, MICHIGAN.

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IT is not my intention to weary the members of this society with a long list of diseases peculiar to the liver, but to give you a synopsis of the physiological functions of an organ which I believe to be one of the most complicated, if not the most complicated organ in the body, and one which I believe, if we would all more thoroughly acquaint ourselves physiologically, would assist us many times when we are unable to decide as to whether we have a pathological condition or not.

I am sure all present will substantiate the fact that our success as physicians and diagnosticians will largely depend upon the theoretical and practical knowledge we acquire of the anatomical and physiological functions of the different secreting and excreting glands of the body, together with a general resume of the organism.

First we will view the anatomical location of the liver in the human subject. It is the largest ductless gland in the body, situated just below the diaphragm in the right hypochondriac region, and weighs about three and one-half pounds. Yet its weight is somewhat variable; in a person of ordinary adipose development its weight is about one to thirty-two. Its functional uses are more or less distinct from each other. It secretes a liquid substance, the bile which is more or less concerned in the digestive process and contains an excrementitious substance. A second function is the formation of glycogen, in which it acts as a ductless gland.

There are duplicatures of peritoneum formed as it passes from the surface of this organ to the surrounding organs and tissues. These folds form four ligaments by which the organ is retained in position. As this membrane passes over the surface of the liver it is closely adherent to its surface. As it continues on its course it surrounds the blood-vessels and nerves supplying this organ, penetrating its substance in the form of a vagina or sheath. As a protective medium for these delicate structures, as it thus ramifies the substance of the liver, it forms the so-called Glisson capsule.

The liver substance is composed principally of lobules which are round in form and about one twenty-fifth of an inch in diameter, these lobules being separated by the penetration of blood-vessels, nerves and ramifications of the hepatic duct. The vessels of this organ comprise the hepatic vein, hepatic artery and duct which pass to the lobules through the transverse fissure and are continuous with the substance of each lobule and seem to ramify their substance. They can be followed to their distribution from the lobule as they throw off lateral branches along the capsule of Glisson, forming the so-called vaginal plexus. One peculiarity of the vessels forming this sheath is the absence of anastomotic communication between any of the small vessels with the sheath. The portal vein subdivides within the sheath until its small branches ramify between the lobules, supplying vaginal branches which again enter the sheath.

The hepatic artery has three very distinct sets of branches, one set going as nutrient branches to the portal vein. It is important to keep in our mind's eye the minute subdivisions of the vessels when studying hepatic disorders that we may clearly understand the course of the circulation from its entrance to its exit from this organ.

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[*] Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

The hepatic artery supplies branches of nutrition to the artery itself, the hepatic vein and branches to the hepatic duct, small branches to the capsule of Glisson, and terminal branches which with portal branches go to form the vaginal plexus. I am sorry we are here interrupted in following the course of the artery beyond the interlobular vessels, but I hope it may be impressed on our minds the course it has taken, from its origin on entering the liver through the capsule of Glisson along its ramifications between the lobules to its termination again in the capsule or its vaginal sheath. In nearly every case we will find some branches, of the portal vein and hepatic duct, following the hepatic artery and its branches, and forming the interlobular vessels. Smaller branches are given off from the interlobular veins which pierce the lobule and immediately break up into an abundant plexus of minute capillaries.

By this lobular plexus the blood is distributed to the lobules, from which it is collected by several veinous branches and carried into one common vein that pierces the center of each lobule. This intralobular vein, into which all the veinous radicles of the lobule empty, carries their contents into larger sublobular veins. These become larger and larger in their course as the blood is collected through the veinous radicles from the different lobules, by a process of anastomosis, to be carried finally by three hepatic veins into the ascending vena cava.

Having followed closely the arrangement of the blood-vessels and the course of the circulation in the lobules, it is necessary to consider for a moment the hepatic cells which are very numerous in the substance of the liver, and of variable dimensions, presenting one and sometimes two nuclei and nucleoli. Sometimes occasional fat globules are detected in the liver cells, together with glycogen in a granular form external to the nuclei forming its enclosure.

It is evident that the anatomical and physiological arrangement of the liver cells have been subject to a very limited course of study and experiments, since GERLACH, in 1884, makes but brief mention of them during his investigative career. He spent much time investigating the larger and more important bile duct, which is found to be a network of vessels surrounding the lobules in every conceivable manner. It is very clearly illustrated that the bile duct plexus is a distinct and independent set of vessels inclosing within its minute meshes each individual cell from the periphery of the lobule to the intralobular vein. The bile ducts between the lobules are very small and present no lining membrane except an epithelial layer. Ducts larger than one twelve-hundredth of an inch are composed of inelastic with some elastic fibers, the lining being of the columnar epithelial variety, gradually changing from the columnar variety to pavement epithelium as it enters the cell according to the size of the ducts, while the larger ducts have a distinct mucous membrane with mucous glands. One will accordingly find, from the interlobular canals through the whole substance of the liver to the ductus choledochus, small tubular or racemose glands varying in size according to its location in the liver substance.

All of these bile ducts present frequent anastomoses in their course through the liver for the convenience of conveying the biliary substance uniformly to all parts of the organ according to its capacity for utilizing its individual portion.

The nerve and sympathetic supply of the liver is original, the nerves being branches of the pneumogastric and phrenic with solar branches of the sympathetic. There will be found upon examination a difference in the mode of entrance of the nerves to the substance of the liver, the left pneumogastric being conveyed to its termination by the portal vein, while the right pneumogastric, phrenic and sympathetic are accompanied by the hepatic artery and duct. In nearly every instance the nerves are conveyed to the organ by the blood-vessels and accompanied by them in their distribution; we have no definite knowledge of how far the distribution of the nerves may extend, for they have not been traced farther than the termination of Glisson's capsule.

The formation of the liver is so different from any other glandular organ in the body that the mechanism of the formation or secretion and discharge of the bile is hard to understand if we have not a thorough knowledge of the anatomical and physiological make-up of the organ, as I have intended to convey in the foregoing.

It will be seen that the cells of the liver are not contained in the ducts, or in any way inclosed by them; the bile is taken up by the exceedingly small plexus of vessels which convey it to the ducts. The liver being a very vascular organ, is abundantly supplied with both veinous and arterial blood. The veinous circulation predominates very largely by being constantly laden with the excrementitious products of the liver which is conveyed to the portal system for filtration and purification before it is thrown into the general circulation.

In considering the origin of the material requisite for the proper production of bile, it is safe to say it can be supplied either by the hepatic artery or portal vein. This fact has been verified by tying the artery, after which bile was formed, and by obliterating the vein, the artery being left intact; but as the bile from either one alone is found to be imperfect in composition, it seems essential that both vessels be in perfect order for the formation of a pure product of this fluid which is so essential for intestinal digestion, during which time it is much more abundantly secreted and discharged. The bile, during the intervals of digestion, is retained within the gall-bladder and ducts, to be poured out at the next digestive period.

Although the liver is very abundantly supplied with nerves from the cerebro-spinal and sympathetic systems, their effect upon the formation and discharge of bile is very obscure, it being so difficult to study their effect on the functions of the liver. Undoubtedly **Bidder** and **Schmidt** have advanced the most reliable theory regarding the quantity of bile secreted in a given time, their experiments being limited to biliary fistulæ upon animals. Applying their experiments to man, it is found the daily secretions would be about two and one-half pounds in a man weighing one hundred and forty pounds.

The influence of diet is variable, it being found that persons eating but little solids and consuming large quantities of liquids, secret less bile than when large quantities of solids are freely used. It has also been observed that patients suffering from gastro-duodenitis, with a severe gastric irritation when but little or no food is being taken, secrete enormous quantities of bile. This process may continue for a number of weeks, as in one instance under my own observation the bile was secreted in enormous quantities while the patient was consuming no food only as given by rectal alimentation, this condition continuing for eleven weeks. Yet this may be accounted for in more ways than one, as the patient was very large and had a surplus of adipose tissue, weighing two hundred and sixty pounds, from which nature drew her supply. If this be so, why was it that the patient did not fail in flesh, which she did not, but claimed she was more of a burden to herself than ever?

The properties and composition of bile secreted while fasting is inferior to that secreted during perfect health with a full diet. The biliary salts are a combination of the normal salts of the tissues, it having been demonstrated that the salts of sodium, potassium, magnesium, calcium and iron are the products of secretion being found in the liver cells. MALESCHOLT, in his numerous experiments with liver substance after a time found it impossible to detect the biliary salts in the blood. If this be true, the presence of these salts in the bile is not an indication that they are products of disassimilation. After the bile is thrown into the intestine, these salts are no longer found, undoubtedly being used in the process of intestinal digestion.

Cholesterine, one of the component parts of the bile, is to be obtained from the bile, blood, liver, nervous tissue, crystalline lens and meconium, it being found that in the fluids of the body cholesterine exists in solution, but no positive proof of why it is so prone to liquefy in the fluids more than in the solids has ever been advanced. Yet it has been proven to the satisfaction of some that the fatty acids of the blood hold it in solution while the bile has the unexplainable power of rendering it soluble in its medium, but this is uncertain.

A decided change is seen to take place in the cholestrine after its passage into the intestine. The greater part or as much as is used in the process of digestion is changed into stearin, the balance being found in a state of crystallization and may be detected in pathological fluids and tissues by microscopical examination. Physiologists have not as yet been able to determine the accurate origin and destination of cholesterine. It has been demonstrated that the brain and nervous tissue contained larger quantities of cholesterine than other of the tissues; that the veinous circulation also contained more of the product than the arterial circulation; that in cases of hemiplegia the cholesterine was found in larger quantities in the vessels of the paralyzed side than in that of the sound side. The excess of cholesterine in the veins may be accounted for by the fact that the arteries give up more of their solids and liquids during their passage through the liver than the veins do; that after the blood has been through the liver, and the distal arteries examined, it would be found that their contents bore less cholesterine than did that of the veins, which had not disposed of it in the liver.

As the arterial blood is composed of a mixture of the materials from the entire system, and from the fact that it is constantly being laden with such substances, and not passing through organs which extract these principles before it enters the liver, it is here that it is removed and made use of; it will under these circumstances be found that the veinous circulation contains more cholesterine than the arterial, but not before they have made their circuit through the liver. Examination before the circuit is made will prove the arterial blood to be in excess with cholesterine elements, while immediately after its passage there is a slight variation in favor of the veinous circulation containing the greater amount of the cholesterine forming substances. There is a mixture of the contents of the portal vein and hepatic artery almost as soon as they reach the liver; it is from this mixture the cholesterine is taken, its presence in the bile together with its constant removal from the blood being proof that it is not formed in the nervous system, but is a natural secretion of the liver. That the amount of cholesterine may be influenced is possible; the normal average amount in healthy adults is in proportion to the amount of stearin found in the intestinal canal, providing there be no deterioration which would influence the amount of cholesterine into stearin. The average amount being ten and one-half grains in twenty-four hours.

In a case of simple jaundice from duodenitis in which there was no great systemic disturbance the amount of cholesterine was uninfluenced, while in a case of cirrhosis with jaundice in which the liver cells were shrunken and the gall-bladder contracted, examination of blood and feces a few days before death showed in this condition 1.857 part of chloresterine, more than double the quantity ever found in health with the feces containing stearin.

In view of all these facts, an excretory action of the liver involving the separation of cholesterine from the blood and its discharge in the feces in the form of stearin must be regarded as established.

There is yet another function assigned to the liver, which will be found of interest if we comprehend the true physiological and functional relations between the liver and the so-called glycogenic formation. It has been decided by physiologists that the liver is constantly producing a starchy substance called glycogen, a substance which is transformed into glucose and thrown into the circulation by the hepatic veins. **Bernard** was the first to advance the theory of the sugar-producing office of the liver. Since his first experiments on this subject they have been held as authority, he having proven that the glycogen was produced by the liver cells after it entered this organ. In this way the liver, acting as a ductless gland, produces the glycogen by its cellular formation in exactly the same way as the several secretions are formed in other glands. That the formation of glycogen by the liver cells precedes the production of sugar is true, since these starchy substances have been found in the livers of animals when no sugar was present. To give you the mechanism of sugar production in animals, I will have to touch upon the physiological history of glycogen, as it belongs to the class of carbohydrates and has the same elements as starch, but their properties are unequal in their proportions, but readily converted into glucose and existing in the liver cells in a granular form around the nuclei of the liver cells.

Glycogen has been found in the process of development in the muscular and cartilaginous structures of the adult, while in early fetal life it is found in all the tissues and in the placental villa. Glycogen formation is always or nearly always in proportion to the alimentation and digestive process, the liver cells producing far more glycogen in strong, healthy, well-fed animals than when a few days of starvation have been experienced. It is also much more abundant during digestion than in fasting animals, for a purely fatty or albuminous diet is shown to greatly diminish the amount of glycogen. Compared with a mixed diet, although it is invariably present in animals fed on meat alone, an excessive admistration of carbohydrates will invariably produce an increase of glycogen, which is undoubtedly stored up in the liver in the form of starch which is converted into sugar before they are absorbed. All the series of carbohydrates have the same changes to make before they are used in the nutritive process.

There has been a great difference of opinion regarding the existence of sugar in the liver of the living subject, but the weight of experiments have lifted the scale in favor of the theory that sugar does not exist normally in the liver until postmortem changes have taken place. That the glycogen of the liver is constantly being converted into sugar and carried away by the blood stream is an undoubted fact, since there is no condition which influences the quantity of sugar in the blood like the interference of the circulation of the liver, obstructing the free flow of blood through the hepatic veins, which operate principally under the influence of the nervous system, which produces some of the most remarkable changes with reference to the presence and absence of sugar in the blood. This experiment may be proven by irritating or puncturing the floor of the fourth ventricle, when an artificial production of sugar will almost invariably follow, just as certain impressions made upon the nervous system will influence the amount of sugar in the blood and a consequent larger amount of glycogen in the liver. The increase of sugar in the blood after irritation of the central nervous system cannot be attributed to the effect such irritation may have upon the pneumogastric nerve, since the same effect has been produced after the division of both pneumogastrics, but when they are intact they certainly have some effect upon glycogenesis, for if no irritation of the ventricle be produced, and both pneumogastrics are divided in the neck, it will be but a matter of a few days before the animals will succumb, and no sugar will be found in the liver, hence it is reasonable to suppose that glycogenesis has been arrested on account of the loss of influence the pneumogastrics might exert. Yet stimulation of the peripheral end produces no effect upon the production of sugar, while stimulation of the central ends of the pneumogastrics are followed by such impressions upon the central system as to be reflected to the liver and cause an increase in its functional productions, especially that of sugar.

The sympathetic nervous system does not influence the production of glycogen in the liver to any great extent, experiments in this line having shown that the only effect produced by the sympathetic system was through the temporary action upon filaments of the pneumogastric nerves, and not in any case directly from the sympathetic nervous system was the amount of glycogen in the liver or sugar in the blood increased.

The sum and substance of this function is that the liver serves as a receptacle for the carbohydrates, which under normal conditions of alimentation and nutrition are all converted into sugar which is supplied to the system as the nutritive requirements demand.

The question which has been so confusing and so unsettled for so long regarding the formation of urea, and which was supposed to be the property of all the tissues, has proven to reside principally in the liver, the suprahepatic vein being found to contain a larger quantity of urea than the portal vein, the ammonia being transformed into urea during its passage through the celluohepatic circulation, this transformation being greatly influenced by disease. In acute yellow atrophy the amount of urea in the urine was diminished, while its excretion was increased in other diseases.

MURCHISON, through experiments, is convinced that the liver is one of the chief laboratories for the production of urea, and that this is one of the most important functions of the hepatic cells. Conclusions can be drawn as to the functional activity of the liver from the quantity of urea excreted. Thus in conditions of simple irritation of this organ there would be an increased daily elimination of urea, while destructive lesions would cause a marked diminution in the production of urea. The blood pressure and velocity of the blood current is another factor which enters into the increased or diminished production of urea, as in all other secretions, not of the liver alone, but of all the secreting organs, providing the increased activity of the hepatic cells and intravascular pressure is not associated with some pathological condition which may cause a disturbance of function. The liver does not produce all the urea in the organism, as it is a product of all the tissues and organs wherever nitrogenous substances are consumed, which process may include all the organs, but particularly are the parenchymatous glands, the spleen and lymph glands among those in which urea is found in proportion to the amount of nitrogenous matter consumed. If we thoroughly comprehend the course and velocity of the blood in this hepatic gland, we may better understand that as the blood flows slowly through the liver, it becomes charged with a greater quantity of oxidizable, nitrogenous substances which are the products of digestion undergoing complete combustion, than in organs through which the blood rushes with greater velocity, and that the products of incomplete oxidation of tissue are transformed into urea in the liver although their formation in other parts of the organism is not at all unlikely, under the influence of the hepatic cellules.

The researches of MINKOWSKI and SCHROEDER show that the liver, especially in birds, is the principle seat of the production of uric acid, a product of synthesis of ammonia with lactic acid. These experiments, I think, were principally limited to birds in which, as is well known, the principal derivative of the oxidation of nitrogenous substances is not urea but lactic acid.

This organ, the functions of which we have been reviewing, does not end its work here, but acts as a filter for the greater part of fluids of the system. This depurative function of which physiologically we know so little, acts as a protective medium for other of the smaller glands and the tissues of the body against toxic substances which, if permitted to enter the system directly without passing through the one great filter of the organism, would be directly, and many of them deadly poisonous. Substances injected hypodermatically and allowed to enter the system direct are much more toxic than those ingested, and permitted to the system through the portal circulation. This has been very nicely demonstrated by giving a dog one drop of nicotine, an amount sufficient to destroy life; another dog of equal size was given two drops hypodermatically directed into the mesenteric circulation without destroying the animal, showing that more than fifty per cent. of the poison was neutralized or destroyed in the liver during its passage, thus protecting the organism from its poisonous effects.

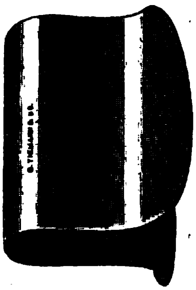
From this brief review of the hepatic cell, it may be seen that all the various functions to the performance of which the liver is adopted may be grouped together under two principle heads: (1) Prevention of waste, and (2) Depuration. Complex as the function of the liver is, it consists especially in a chemical process which is always at the bottom of cellular activity, but this does not produce any disassociation in the hepatic functions as we might suppose.

There is not within the liver cells a series of independent chemical operations, but all the steps of this single but complex process are intimately united to each other, that is to say, combustion, hydration, reduction and duplication. Of this chemico-molecular laboratory we know only the ultimate products, the bile, urea, glycogen, destruction of red blood cells and arrest of poisons. We do not know the intermediate steps, that is to say, the derivation and all the stages of transformation of the various substances. All these biochemical functions of the hepatic cells are closely bound to each other like the links of a chain, as is continually shown by chemical and pathological facts.

A FINGER PROTECTOR FOR HANDLING THE HEADMIRROR.

By EMIL AMBERG, M. D., Detroit, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]



Whenever a headmirror has to be used during aseptic work a difficulty arises. The mirror cannot be sterilized, and the fingers must not be used to change the position of the same. I advise, for this purpose, a metal finger protector, which is used as a forceps. This instrument is very simple, as is shown by the cut, which represents it in about three-fifths of its natural size.

George Tiemann & Company, New York, are the manufacturers.

32 Adams Avenue West.

OBSERVATIONS OF A GENERAL SPECIALIST.*

By F. B. TIBBALS, M. D., Detroit, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

In order to gain credence nowadays and a standing both without and within the profession, it seems necessary for one to become a specialist or at any rate to announce himself as such. A specialist, according to Gould's dictionary, is "one who *limits* his practice to certain specified diseases or to the diseases of a *single* organ or class." Inasmuch as I cannot conscientiously apply this definition to myself I am obliged to adopt the qualifying designation of a general specialist. A general specialist, therefore, should be defined as one who *limits* his practice to *everything*. The radical difference between general specialists and the rank and file of ordinary specialists is that our limitations are more clearly defined and therefore more binding.

A general specialist is never obliged to suffer any qualms of conscience in treating cases outside of his specialty. He can treat the baldhead and the ingrowing toe nail and all the diseased conditions of all the organs lying between these boundary lines, while the ordinary specialist who "*limits* his practice to certain specified diseases or to the diseases of a *single* organ or class" is kept in a continual condition of mental unrest by his efforts to determine just where the boundary lines of his specialty begin and end. For, you see, so inseparately are the different parts of the human body bound and linked together by the central and sympathetic nervous system that so small an organ as the eye may become crossed in love through constipation, or the tonsils hypertrophy through a constitutional dyscrasia. Hence, the specialist must relieve the constipation or remove the dyscrasia. The gynecologist circumcises the baby because of the causal relation existing between the child and the gynecological disease of his mother. The dermatologist becomes so habituated to the daily practice of looking people over that he looks upon life insurance examinations as one of his sacred duties. The surgeon finds it necessary to get his patient into condition before, and keep him in condition for a few years after, operation, to make the operation itself a full success. Thus only may we understand the apparent anomalies of modern specialism.

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*Read before the Detroit Academy of Medicine.

"Blest be the tie that binds," says the specialist, and because of the tie that binds the various organs of the body into one composite whole from which no pet organ can be isolated the ordinary specialist in reality stands upon the same plane as the general specialist except that his social and professional standing is higher because of his greater gymnastic ability in climbing the ladder of fame. Not that he is essentially a better athlete but he gained a good start by seeing the ladder first.

So far as my observation goes the principal object of all specialists is to reach the laity as directly as possible without incurring the censure of our professional brethren, and we have so far succeeded therein that the man who is not a specialist is lonesome. "Oh," the people say, "DOCTOR CATCH-EM is a great specialist; he is a woman doctor, but he is good for worms too." Before I became a general specialist I lost a lucrative case of obstetrics by frankly saying that I did not make a *specialty* of such cases, and although I know of no man in Detroit who *limits* his practice to obstetrics the patient found one. Last winter I saw a well-known actress with an erythematous drug eruption developed from a recent illness, and shortly after a dermatologist got ten dollars for making the very wise and satisfying diagnosis of *roseola.*

So popular has modern specialism become that the chief vocation of that large body of physicians formerly known as general practitioners bids fair to be that of guides to the various specialists, being allowed to share in the reflected light of refulgent glory emanating from those great luminaries but unable to enjoy basking in the light because dazzled by its brightness, after blinking so long in the dark shadowy background. One cannot but regret the passing of the family physician, that sterling good fellow who was good in everything, and was closer to the hearts of his patients than anyone else on earth. But the family physician is no more—*requiescat in pace.* We must all become specialists if we would get to the front. This will be done by great accessions to the ranks of the general specialist in whom you will see most of the specialism of the future. Men will equip themselves with modern appliances, instruments and books, post themselves through the journals, clinics, and postgraduate schools, and thus compel the laity to recognize the fact that the family physician is thoroughly competent to treat them, and the evils of specialism will correct themselves.

There will still remain, however, the true specialist—essentially a consultant—who, by virtue of long years of experience and special study of certain diseases, is qualified to advise the general practitioner, and supervise the treatment of the general practitioner's patient when asked to do so.

I rather like the term general specialist, it sounds so nice. I can shut my eyes, enter the hypnotic state and see myself seated in a comfortable library chair in richly furnished offices securely riveted to the topmost round of the ladder of fame, with the ten-dollar bills constantly brought to my lap by balloons, and then I watch the balloons go back on the cash carrier system to the eager crowd of patients below, bearing words of wisdom, cheer or tablet triturates to the original owner of the ten spot, until awakened from this pleasent reverie by the telephone which calls me back to the humdrum realities of life. There is much of humdrum and of routine in general practice, but again much of pleasure and even humor.

The unusual manifestations of syphilis interest me keenly and I know of nothing so satisfactory in general medicine as the use of mercurials or iodides in proper cases. We frequently make the mistake of not using the iodides in large enough doses in tertiary cases. I cured a syphilitic ulcer of the leg in four months by large doses of iodides which had been under treatment for four years previous by a competent physician. I have recently seen a cluster of syphilitic nodes of the upper arm rapidly disappear under the iodides which the physician who treated the secondary lesions twelve to fifteen years ago failed to recognize as syphilitic. Two cases of extragenital chancre are of interest from the mode of infection. One on the ankle from applying to an abrasion vaseline belonging to a roommate who had a sore on his penis, the other on the lip from using cold cream surreptitiously used also by a maid with venereal disease.

It is unfortunate that all physicians do not become certain of diagnosis before beginning specific treatment in supposed syphilitic infection, and thus prevent the lifelong doubt as to the real condition. A patient of mine who ten years ago had a little abrasion immediately following suspicious intercourse was assured by the first man who saw it that it was a chancre. He was well in three days, has never had secondary symptoms nor specific treatment, but cannot entirely rid his mind of the haunting fear of outcroppings in the future. Some years ago I saw a typical Hunterian chancre which resisted all local treatment for two or three months, in a man who had had unquestioned syphilis seven years before. His previous history alone deterred me from beginning specific treatment at once but my decision was the correct one for he has never had any sequelæ.

A patient who consults me occasionally has this history. On the indurated scar left from the removal of a venereal wart there subsequently developed a small sore after intercourse, which rapidly healed. Because of the induration he was assured by a New York specialist that the sore was a chancre, but the Saint Louis specialist who had removed the wart threw his medicine away with various uncomplimentary remarks concerning the New York specialist. I saw him next and concurred in the opinion of the Saint Louis gentleman, but shortly after another New York specialist congratulated him upon coming at the opportune moment to the only man in the country who would have discovered the one small mucous patch situated between the pylorus and the epiglottis and started him on protoiodide with instructions to report again at his earliest opportunity. Now, this poor patient will probably never know what his true condition was and will spend the balance of his days securing opinions from various physicians, in an alternate pendulum movement between the heights of joy and the depths of woe.

While these personal experiences incident to the sexual functions represent but one phase of the "Observations of a General Specialist," I have chosen them because typical of a class of cases less often reported than others, and hope that they may prove not without interest to that large body of medical men practicing the same specialty as myself.

RECTAL REFLEXES.*

By WILLIAM L. DICKINSON, M. D., SAGINAW, MICHIGAN.

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THE term reflex is applied to an action which consists in the reflection by an efferent nerve of an impression conveyed to a nervous centre by an afferent nerve. The terms voluntary and involuntary action have been replaced by reflex and automatic. All reflex or excitomotary movements are regarded as being executed independent of consciousness. Reflex actions are those excited by stimuli. Automatic actions are those in which no stimuli have as yet been traced. Consequently as new causes are discovered, the number of automatic actions diminishes, and perhaps in the future it may be demonstrated that nearly all operations and movements of the body are reflex.

Since remote times reflex actions have been observed. It was known that a tickling in the throat produced cough, a weak acid upon the tongue set the facial muscles in motion, a bright light falling upon the retina caused the pupil to contract. It had also been observed that stimuli produced reflexes at points quite remote from the place where the irritant is applied, as for instance a mental impression, such as a fright or a shocking sight, causes paling of the face and fainting; the sight of appetizing food causes a flow of saliva; rasping sounds irritate the sensitive dental nerves, or "set the teeth on edge," as the common expression is, while throwing cold water upon the skin causes a contraction of the blood-vessels and pores of the entire tegumentary system.

That we may better understand this reflex excitation and appreciate its intrinsic worth in the diagnosis and prognosis of disease, I will cite some cases which have come under my own observation.

Case I.—MR. A., aged forty years, had been troubled with a soreness and pain in the anterior portion of the urethra for nearly four years. He had been treated by several physicians with medicines, and also with sounds, up to number twenty-two, American, but with all the dilatation and medicine used, still the irritation remained, and at the time he came to me he was obliged to get up three or four times each night to urinate, and was also in a very nervous condition. Upon examination of the rectum I found an ulcer about the size of a three-cent piece, situated on the anterior wall of the rectum, at the apex of the prostate gland. When the ulcer was exposed by the speculum, and its surface touched with a probe, the patient felt an almost irresistible desire to void his urine.

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*Read before the SAGINAW COUNTY MEDICAL SOCIETY.

The treatment consisted in applying a twenty per cent. solution of cocaine for a few minutes, and then curetting the ulcer thoroughly and dressing with iodoform and boracic acid, equal parts. Once daily for ten days the ulcer was cleansed with peroxide of hydrogen and the powder applied, when healing had taken place and the patient was free from all his urethral irritation, and has remained so to this time, a period of five years.

Case II.—MISS B., aged twenty years, had suffered with an anal fissure for one year. She not only had the usual pain accompanying each bowel movement, but there was an irritation at the neck of the bladder causing her to urinate during the day on an average every half hour, and at night her rest was greatly disturbed, as she had to urinate about every two hours.

After washing the anus with hot water and applying a cocaine solution to the fissure, I dilated the sphincter the full size of Pratt's small bivalve speculum and applied to the fissure a ten per cent. solution of silver nitrate. The silver nitrate was used every second day for six times, when the fissure was healed and the patient was free from all annoyance.

Case III.—MISS K., aged nineteen years, was referred to me by DOCTOR DAVIS, who gave the following history of the case: Patient had been in good health until about six months previously, when she observed a looseness of the bowels, and at the time I first saw her she was having from twenty to twenty-five bowel movements in twenty-four hours. Astringents, et cetera, would control the movements, but as soon as they were discontinued the diarrhea returned as bad as ever. There was so much pain and burning in the rectum that morphine had to be given to control it.

Upon examination I found an ulcer on the posterior wall of the rectum associated with a very tight sphincter. The patient was chloroformed and the sphincter dilated, ulcer curetted and dressed with iodoform. She did not require any medicine from the time of operation. At the end of four days she had a natural bowel movement, and without pain. She left the hospital in two weeks able to resume her duties as a housemaid.

Case IV.—MR. P., aged twenty-four years, a farmer, had been troubled with dyspepsia and constipation for four years. He had lost in weight twenty pounds, and was nervous and irritable. Pain and weight in the stomach most of the time. Had been under the care of a number of physicians at different times for three years, besides trying several patent medicines recommended by his friends. Examination of the rectum revealed five pockets and three papillæ, also a tight and irritable sphincter.

The treatment consisted of gradual dilatation of sphincter with rectal dilators and Pratt's bivalve speculum. The papillæ were cut off with the scissors, and the pockets slit up, doing only a little work each time, and thus not causing much pain at any time. As soon as the diseased condition of the rectum was removed, all stomach symptoms disappeared, and he could eat all kinds of food without any distress, soon regained his health and strength, which he has enjoyed for a period of two years.

Case V.—DOCTOR X., aged forty-five years had been troubled with chronic diarrhea for two years, and medicines had but little influence over the number of bowel movements.

Examination disclosed an unusually tense sphincter, chronic proctitis, and ulcer on the posterior wall of the rectum. Treatment consisted of dilatation with Pratt's bivalve speculum twice a week, and painting the rectal wall with a ten per cent. solution of silver nitrate, supplemented by the patient using a five grain hamamelis suppository twice daily. The treatment was continued three weeks when he was cured.

Case VI.—MRS. M., aged forty-five years, a physician's wife, suffered from internal piles and sciatica. She had had piles for sixteen years, not being free of them since her last confinement, and for the last six years had suffered greatly with sciatica. Her husband had tried many remedies in her case until he finally became discouraged.

The piles were removed by excision, the patient being confined to her bed for ten days. By the removal of the piles she was freed of the sciatica, and there has not been any return of the disease for a period of two years.

Case VII.—MR. B., aged sixty-five years, a merchant, had been having pruritus of the scrotum for about six months, and on account of the intense itching and burning had not been able to sleep in bed for the past six weeks. At times he was nearly crazed by the severe itching, and for a few days and nights required constant watching.

Examination revealed very large internal piles that protruded at every bowel movement, and would not return within the rectum without help; also a rectal ulcer about the size of a five-cent piece on the anterior wall. Under chloroform the sphincter was dilated, and the ligature operation made on the piles. The ulcer was curetted and its base painted with pure carbolic acid. On account of the thickened condition of the skin on the scrotum and perineum I painted the parts once with a twenty-five per cent. solution of carbolic acid, which caused a free exfoliation. The itching for a few days after the operation was intense at times, but conld be partially controlled by hot water applications, and a twenty per cent. menthol ointment. As the rectum healed he began to have less itching and could sleep better, and by the time the bowel was well he was free from his pruritus.

I believe all chronic diseases are aggravated by some reflex irritation, and that they cannot be permanently cured until the cause is removed. Many cases of dyspepsia have their seat in the rectum. We are aware that when a nerve is excited it conveys the impression to the nerve cell in the cerebral cortex or gray surface of the brain. This stimulates neighboring cells like a wave circle, so that the disturbance spreads on all sides as all brain substances which decompose and transmute their energy into other places and into other forms.

Physiology has plainly instructed us that the cerebral cortex receives its stimuli from both the external and the internal nerves of the organism, that is, it receives impressions from both the cerebro-spinal and the sympathetic nervous systems. MAX NORDAU says: "The cerebral cortex receives its stimuli, not only from the external nerves, but also from the interior of the organism, from the nerves of separate organs, and the nerve centres of the spinal cord and the sympathetic system. Every excitement in these centres affects the brain cells and arouses in them more or less distinct presentations, which are necessarily related to the activity of the centres from which the stimulus proceeds. If we, from some cause, maybe an affection of the heart or lungs, cannot breathe freely, we have not only a hunger for air, but also accompanying ideas of an uneasy nature, presentiments of unknown dangers, et cetera."

I think it can be seen that many chronic affections are produced or aggravated by reflex irritation; that the irritation of an organ begins at its mouth; that remote organs may become involved reflexly; and that we must remove the cause before we can be successful in eradicating the chronic trouble.

917 Genesee Avenue.

SOME EFFECTS OF CLIMATE.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Climatotherapy has been advocated since the time of Hippocrates. Its value long ago found expression in popular opinion. It is not long, however, that this subject has been scientifically studied, and even now so much of our so-called knowledge of climatic effects consists of conjectures rather than proven facts that the existence of a logical formulary of this science may well be doubted. It is a curious fact that some of the more obscure branches like electrotherapy, psychology, and hypnotherapy are already so well developed and receive collegiate notice while the bodily phenomena attending the changes of climatic conditions are explained in contradictory terms. Before the introduction of specific medication and the inculcation of hygienic principles climate offered greater inducements in the treatment of some diseases than any known remedies. Now, however, its efficacy is doubted even in the treatment of pulmonary consumption in which, if in any disease, it has always been assumed to be of value. On account of the unequivocal language of some of the advocates of the open air treatment of consumption and its universal applicability irrespective of climate, and, attracted by some observations and experiences in Colorado and New Mexico in the early summer, this subject has awakened my interest. For these reasons it has been brought up this evening.

Originally climate represented a region and varied according to the latitude of the thirty zones into which the earth from the equator to the poles was arbitrarily divided. As now understood it relates to atmospheric conditions in so far as they influence animal and vegetable life. In this broad sense it has reference not only to temperature, sunshine, moisture, rarefaction of the air, winds and soil, but also to the general hygienic conditions of the atmosphere whether natural or rendered artificial by circumstances of animal and vegetable life.

That local climatic conditions are determined not only by latitude and the directions of the sun's rays but also and often more by the local configuration of the earth's surface, the nearness of large bodies of water and forests is a fact of common knowledge. It is also true that atmospheric conditions may be and are artificially modified to a considerable degree. The growing of forests, the making or draining of lakes and the reclaiming of malaria-breeding districts have produced marked effects upon the temperature, natural humidity, and purity of the surrounding atmosphere. The aggregation of people in large towns materially affects the relative proportion of carbonic acid, ozone, and organic substances in the air. **Doctor A. Smith** is authority, in the "Encyclopedia Britannica," for the statement that country rain is neutral, while town rain is acid and corrodes metals, stones, brick and mortar. That the amount of organic matter suspended in the atmosphere in different places and strata varies was well demonstrated by Professor Tyndall. Of twenty-three flasks opened on a hayloft, twenty-one were invaded by organisms, while of twenty-seven others similarly opened on an Alpine ledge two hundred feet higher none gave way. The contamination of the air we breathe by organic impurities is as real and comparable in importance as the possible contamination of the water we drink and its bearing upon human existence is evident. Its influence in the causation of tubercular disease in the lower animals is almost beyond belief. **Houck** has estimated that in the lower animals, though he has cattle especially in mind, primary infection takes place in eighty-five per cent. of cases through the respiratory tract, six per cent. through the digestive tract and four per cent. through the genital tract and rarely through abrasions.

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* Read before the Detroit Medical and Library Association.

Important as are the climatic changes artificially produced, those the result of natural agencies will first receive consideration and may be studied both as to their effects upon the bodily organism and statistically in the causation and alleviation of diseases. In investigating the several factors of climate it is found that they mutually influence each other in many ways. For instance elevation above sea level will be accompanied by rarefaction of the air, estimated at one-fifth at an altitude of six thousand feet, decrease in temperature at the rate of three degrees for every one thousand feet, more or less wind according to the presence or absence of barriers, and alterations in the natural humidity according to the influence of winds and temperature. Contrary to these observations it should be noted that over a closed valley the upper strata of air may be warmer than the lower owing to the temporary absence of wind motion, and that the marked wind changes at other times in the rush of cyclones may result from just such conformations. On account of their mutual influences these factors produce composite effects, which are not easily analyzed.

The effects of climate upon lower animals and vegetable life have had many observers. **Darwin's** contributions on this subject are interesting and deserve notice in passing. With reference to dogs he states: "We have lately seen that several of our English breeds cannot live in India, and it is positively asserted that when bred there for a few generations they degenerate not only in their mental faculties but in form. * * * **Doctor Falconer** informs me," he continues, "that bull dogs, which have been known when first brought into the country, to pin down even an elephant by its trunk, not only fall off after two or three generations in pluck and ferocity, but lose the underhung character of their lower jaws; their muzzles become finer and their bodies lighter. * * * So, again, on the coast of Guinea, dogs, according to **Bosman**, alter strangely; their ears grow long and stiff like those of foxes, to which color they also incline, so that in three or four years they degenerate into very ugly creatures; and in three or four broods their barking turns into a howl." In reference to birds he says "many species differ in tint, size of body and of beak, and in length of tail, in proceeding from the North to the South; and it appears that these differences must be attributed to the direct action of temperature." Again, concerning changes in vegetable forms he writes of a tall kind of corn which was introduced into Germany from the warmer parts of America. "During the first year the plants were twelve feet high, and a few seeds were perfected; the lower seeds in the ear kept true to their proper form, but the upper seeds became slightly changed. In the second generation the plants were from nine to ten feet in height, and ripened their seed better; the depression on the outer side of the seed had almost disappeared, and the original beautiful white color had become duskier. Some of the seeds had even become yellow and in their now rounded form they approached common European maize. In the third generation nearly all resemblance to the original and very distinct American parent form was lost. In the sixth generation this maize perfectly resembled a European variety. * * * Analogous results were obtained by the cultivation of another American race, the 'white-tooth corn', in which the tooth nearly disappeared even in the second generation."

It may not be fair to assume, in the present state of our knowledge, that the changes mentioned are strictly due to climate alone, but that it has had a causative action may not be positively gainsaid. Changes in the bodily form among the human kind presumably due to the stimulating or retarding effect of changed climates on nutrition have been frequently observed, and experiments upon the lower animals have given similar results.

Altitude has various effects upon the human organism. The first noticeable effect is an increase in the frequency and depth of respiration. These modifications are undoubtedly due to the rarefaction or diminished oxygen tension of the air, as SOLLY explains it, and its coldness. The former necessitates the inspiration of an increased volume to compensate for the lessened amount of oxygen, and the latter mechanically distends the air cells by the heat expansion of the colder air. As acclimatization proceeds the frequency decreases, while the depth of respiration remains the same. "This is shown," says DENNISON, "by the large spirometric records of those who reside at great elevations, and the increased size of their chests both in adults and children." On account of the increased respiratory efforts the pulse also increases at first but later decreases. The general blood pressure becomes lessened and the peripheral vessels fuller. SOLLY has called attention* in this country to the blood changes induced by altitude, and explains them by the diminished oxygen tension of the air. "In normal man," he says, "the number and size of the red corpuscles and the percentage of hemoglobin always bear a definite proportion to the atmospheric oxygen tension, so that when the oxygen tension diminishes the number of red corpuscles and the percentage of hemoglobin proportionately increase." He claims that there is not merely a relative increase of hemoglobin and iron due to the increased evaporation of the fluid of the blood on account of the dryness of the air, but an actual increase, and supports it by a comparison of the results obtained by the Zeiss-Thoma counter and the Daland hematokrit. These instruments showed not only an increase in the number of cells, but also a larger corpuscular bulk. "After the individual or animal becomes resident," he continues, "these changes, which commence within the first twenty-four hours, continue at a lessening rate for about a month, and, though still more slowly, even extend over a period of six months, after which the increased gain is permanent and stationery so long as the individual resides at the same level, but on *descending* the process observed on ascent is reversed, and the blood count and hemoglobin diminish in proportion to the descent."

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*[The Philadelphia Polyclinic](), Volume VII, Number XXVII.

Boyd has called attention to the inequality of the pupils observed at an altitude of 10,250 feet, which he has noted in over an hundred cases. He explains this fact as due to the hyperactivity of the nervous system acting upon the muscular fibers of the irides, in which he believes there exists a difference in density. Conjectures have been made that high altitudes are responsible for other nervous phenomena, predisposing to chorea, excitability, menorrhagia, et cetera, but opinions differ and positive proofs and reliable statistics have not been forthcoming.

As the sensible temperature is modified by the humidity, and the latter depends upon the real temperature, these factors may well be considered together. As the exhaled air is nearly saturated independently of the nature of the inhaled air, the effect upon the lungs will vary according to the temperature and dryness. Dry air inspired will absorb moisture from the lungs to a greater degree than humid air. According to Ruedi the inspiration of dry cold air will necessitate the loss of more moisture from the lungs than dry warm air, from which he concludes that "all those diseases where there is an abnormally increased secretion in the larger and smaller bronchial tubes, particularly if the cellular constituents in the expectoration are not predominant, must be benefited, and that the mucous rales are readily dried up."

The effects of sunshine and winds are important chiefly from an hygienic standpoint. The sunshine being nature's great disinfectant, its admission into all the recesses of our habitations is not only desirable, but necessary to continued health. Other things being equal, that climate is best which affords the maximum of sunshine, or in other words, of outdoor life. As the average velocity of wind motion is seven miles per hour the means of ventilation artificially provided in our dwellings are obviously insignificant and ineffective in obtaining pure and wholesome air.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, SEPTEMBER 19, 1898.

The President, CHARLES DOUGLAS, M. D., in the Chair.

Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor George E. McKean read a paper entitled "Tubercular Meningitis." (See page 18.)

Doctor Jennings: The paper covers pretty thoroughly the subject of tubercular meningitis, and perhaps I can add but very little to it. There are some points in connection with this disease which it might be well to take up, namely, the question of pathology. We recognize that tubercular meningitis is due to invasion of the meninges by the tubercle bacillus from secondary infection, primary infection manifesting itself in the bronchial or lymphatic glands more frequently than in other parts. It is rare for a primary meningitis to be found. If the child is perfectly healthy before coming down with meningitis, that would point to it being a simple meningitis rather than tubercular. With simple meningitis, as it is called, recent bacteriological studies in cases of epidemics have shown pneumococcic infection of the meninges, but in certain epidemics other microorganisms were present. For instance, in the epidemic that occurred in New York in 1893 and 1894 about two-thirds of the cases were of pneumococcic infection and the other one-third staphylococcic and streptococcic infection, and in both cases the symptoms were identical. In the cases that have come under my observation, and particularly in simple meningitis wherein I have been able to make lumbar puncture I found the pneumococcus, and when these microorganisms are found they are usually pure cultures. An interesting point to note in connection with the recent epidemic in Massachusetts was that the infection took place from the nasal chambers and advanced into the brain structures through the foraminal spaces. Another disease that presents in its first two days symptoms similar to that of meningitis is pneumonia. We are apt to have pneumococcic infection of the meninges complicating pneumonia. One method of diagnosis not mentioned by the doctor in his paper is Quincke's lumbar puncture. In meningitis the fluid is turbid, in other diseases it is clear. In all cases of simple meningitis you can, by this method, obtain a pure culture of the germ that produces the disease. The diagnosis between simple and tubercular meningitis is easy in typical cases, but in certain forms of the disease we can only determine the exact condition by exclusion. In regard to the treatment I have nothing to add except to refer to one drug. In simple cases, as the doctor has mentioned, nuclein, in the absence of antipneumococcus serum, is useful. Nuclein seems to offer the nearest approach to specific medication which we possess, but I think a good deal of the coal-tar antipyretics as cerebral analgesics. They quiet the severe meningeal irritation and pain and give a good deal of comfort, acting better than chloral and bromides.

DOCTOR INGLIS: DOCTOR McKEAN's paper is both thorough in its treatment of the subject and lucid in its expression. In regard to the question of diagnosis there is one prodromal symptom of much value. I refer to a hacking cough which precedes the onset of the disease. Although they often claim that the child was well before the headache and malaise set in, yet mothers, on close questioning, will recall that for a period of four, six or eight weeks before, the child did have a dry, hacking cough, and was running down and easily tired. This is the external sign of the condition mentioned by DOCTOR JENNINGS, the involvement of the bronchial glands. It is often impossible to determine the existence of pulmonary tubercular areas, but it is almost always possible to determine the presence of this prodromal cough; its presence has a diagnostic and therefore a prognostic value. As to prognosis. Grave as is the prognosis in the tubercular form, I do not believe that it is as some maintain, hopeless. We know that tubercular lesions of other organs are not incurable. There is not *a priori* reason why a tubercular meningitis should be so. Practically all suppurative forms of meningitis are of microbial origin. If other microorganisms, which set up a meningitis, reach a limit in their propagation and toxic results, why should the tubercular be the sole exception? The denial of cure of tubercular meningitis is a point blank denial of the possibility of clinical diagnosis of the disease. We make a clinical diagnosis of tubercular meningitis. The case gets well. If it is therefore denied that the case was tubercular, then we do not know how to diagnose the disease clinically at all. This question is of importance, for upon it depends all zeal for therapeusis. There is no use trying to cure incurable diseases. In the matter of therapeutics

I think the experience of the past year has demonstrated pretty conclusively that Quincke's lumbar puncture has a considerable, but by no means certain, value for diagnostic purposes, but that it is a practical failure as a therapeutic measure. Much more reasonable than lumbar puncture is trephining. **Ord** and **Waterhouse**'s case (*Lancet*, March 10, 1894) is very instructive. There can be no doubt of the drainage—it is direct. What we try to accomplish by iodide of potassium is directly accomplished by drainage. Those who regard tubercular meningitis as necessarily fatal ought to resort to trephining and drainage easily. The use of the hot bath seems to be well worthy of careful trial. Finally, judging from the common concensus that our best results from drugs are won from the fullest use of iodide of potassium, I have been led to regard very favorably the plan of corrosive sublimate injections, as advocated by **Doctor J. D. Smith**, of Paducah, Kentucky. In a disease so generally fatal heroic measures are not only fully justified, but urgently demanded. **Smith** advocates the treatment in cerebro-spinal meningitis, but it seems well worthy of trial in the tubercular form.

Doctor Walmsley: I have had some experience along this line, and can assert that these diseases are very difficult to manage. A case occurred in my own family not long ago. In this particular case **Doctor Inglis** gave me the benefit of his rich experience on several occasions. I allude to it more particularly to bear out the course of treatment by iodide of potassium, which drug was given in large doses, five grains, every hour from twenty to twenty-four hours a day. The case lingered along for about twenty-five or twenty-six days before we could see any effects. For the pain we gave codeine as well as bromides and chloral, and during the latter part of the treatment protonuclein, peptenzyme and strychnine. One peculiarity in this case was that the temperature was subnormal from beginning to end, varying from 95° to 96°. The patient was not able to recognize me for nine weeks. A natural conclusion was that there was a large amount of effusion.

Doctor Flintermann: I am in a position to say that one of the most difficult diseases to make a proper diagnosis of is tubercular meningitis. In some of the cases that have come under my observation during the last few years I was absolutely unable to make a correct diagnosis. In the text-books we are always taught that there are different stages of this disease, but any accurate observer will admit that there are no definite stages. It is a disease with a very peculiar group of symptoms that you hardly can bring under any classification. I have seen children who presented no prodromal symptoms whatever, come down with the disease and develop all the symptoms of meningitis in a single day, convulsions taking place and death occurring almost at once. We must not forget that tubercular meningitis is a general miliary tuberculosis. It not infrequently happens that, so far as we are able to judge, the child is healthy and well nourished, but at the same time there may be a tuberculous focus somewhere manifesting itself in the soft substance of the brain, the arachnoid or pia mater. The impression that exudation takes place in every case of tubercular meningitis into the subarachnoid spaces and ventricles is not true. As far as the prognosis is concerned, I would not in any case hesitate to say that it is absolutely unfavorable if I am positive I have to do with a genuine case of tubercular meningitis. It is not from the diseased process in the brain that the child dies, but from the general involvement of the whole system. The only thing we can do is to take prophylactic measures. The family physician should look after the health and future of the children of the families who are entrusted to his care. As regards the diagnosis, ophthalmoscopic examination of the choroid gives us great help. I saw a case about four weeks ago wherein the diagnosis was positive. The whole history indicated the disease, but there were some symptoms which might lead one to make a diagnosis of simple meningitis. There was a history of tuberculosis in the family. Keep ever before your mind that a child who complains of pain in the forehead is not well nourished, and if there is a history of tuberculosis in the family you may look for a case of tubercular meningitis in that child before long.

Doctor Robbins: In regard to the point raised in **Doctor Inglis'** discussion as to trephining, I wish to say that in operations on tubercular joints the effort of the surgeon is to free the joint of all tubercular deposits and remove diseased foci before the structures become seriously involved.

STATED MEETING, OCTOBER 17, 1898.

The President, CHARLES DOUGLAS, M. D., in the Chair.

Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Frank B. Walker read a paper entitled "Some Effects of Climate." (See page 37.)

Doctor Warren: I think the value of a change of climate is pretty well appreciated now by almost everyone. Very often we do not know just the right kind of climate to suit our individual patient, and I believe our general literature is lacking in that respect. We frequently send a patient to a climate without considering whether he needs the atmosphere of high altitudes or low plateaus. What we all need in the matter of our knowledge of climatology is more exact information as to the particular kind of climate that suits varying conditions in our patients. I recall the case of a patient of **Doctor Bonning's** which he sent to New Mexico. It was a case wherein there was a great deal of expectoration; the whole chest was in a catarrhal condition with considerable exudate being thrown out. The dry air near Albuquerque was just adapted to the patient's need and the improvement was marked.

Doctor McClintock: **Williams** has given a classification in answer to the question raised by **Doctor Warren** that is very satisfactory. He says that we have two things in consumption—a germ disease and a catarrhal disease. It depends upon the predominance of these as to what climate is calculated to suit the patient best. Regarding that classification it may be said we have two classes of cases that are tubercular in tendency—the catarrhal without caseation, and they do best in a dry climate; and those with a tendency to pneumonia, which do best in a warm moist climate. Again we have a type wherein the catarrh is the prominent feature, there being an extraordinary amount of secretion, and these people do best in a warm dry climate like western Texas or New Mexico. The question of moisture is interesting to me. I have a tendency to bronchitis, and can notice in my own experience that I make a fair hygrometer. On a moist, murky day I have great difficulty in breathing. It seems that is the most important factor in climate. I have been experimenting for several years on animals by having them breathe oxygen from moist air. The respiration is much impaired, more difficult where the air is saturated with moisture. Now, if that be the case we might imitate climate. It would be easy to build this room suitable for tuberculous patients if dry air is the particular factor in treating tuberculosis.

Doctor Robbins: I belong to that class who have a catarrhal tendency. On our jaunt to the American Medical Association meeting in California I had this experience: On leaving Detroit and arriving in Chicago I perceived a decided catarrhal formation of scab in my nose. On proceeding inland not over six hours from Chicago that nasal catarrh left and was not again noticed until I arrived in Detroit a month later, showing that the climate was an important factor in its causation. My freedom from it was due to our absence from the lake region where we have a great deal of moisture.

Doctor Walker: In regard to my question of the value of climate I think I must have been misunderstood. I do consider it important. I am not yet prepared to take the stand of some of the English and German physicians, who apparently value the open air only regardless of climatic changes. I do believe there is a therapeutic value in climate and the one point I desire to make is this—that we do not have as definite knowledge of climatotherapy as we ought. We should know how to prescribe it as well as we do other remedial measures.

STATED MEETING, NOVEMBER 14, 1898.

THE PRESIDENT, CHARLES DOUGLAS, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR CHARLES T. McCLINTOCK read a paper entitled "Is there a Tubercular Diathesis?" (See page 6.)

DOCTOR E. L. SHURLY: I do not know that I have anything new to say. I congratulate DOCTOR McCLINTOCK on his paper which fits my views exactly. The arguments which he has offered seem to me to be very sound. Indeed, I am glad to hear a bacteriologist of DOCTOR McCLINTOCK's standing combat the prevalent idea that tuberculosis is purely of microbic origin. He has covered almost all points with reference to the influence of food, habitat, and hygienic conditions very thoroughly and I see little to add. One point, however, I would like to call attention to, and that is, with reference to early structural change; and that, of course, like all other things connected with diathesis, must be more or less theoretical. The idea was first brought out by DOCTOR WILLIAMS five or six years ago, in a paper read before the American Laryngological Association, that the tubercular diathesis, especially regarding the pulmonary organs, depended largely upon certain structural conditions,—an obliquity of the histological relations of the tissues which, constituting a decided physical weakness, amounts to a strong predisposition to disease. Going further on this line the doctor might have taken up the peculiarities of the histological structure of the lungs, for there are many conditions which predispose to different and certain abnormalities such as the shape and consistence of the endothelium or endothelial structures. We know from a clinical standpoint that these structural aberrations are often observed in pulmonary subjects as well as in many others. This, it seems to me, is one of the important points relating to diathesis—one which I think can well be considered in addition to the question of food and hygienic surroundings of such patients.

DOCTOR JENNINGS: I do not think I am able to discuss the question of diathesis. That such a predisposition exists it would seem to be, from clinical observation, pretty fairly well established. It is the idea which has prevailed since the dawn of medical history. I would not go into the question of what constitutes diathesis. It seems to me that the doctor has not developed anything against the tubercle bacillus as the causative factor in tuberculosis. Nothing which he has said diminishes in the least the relation of the tubercle bacillus to tuberculosis. I still cling to the idea that the tubercle bacillus is the most important factor in producing tuberculosis.

DOCTOR HITCHCOCK: I suppose it is conclusively demonstrated that tuberculosis can be produced by inoculation.

DOCTOR McCLINTOCK: If infected sputum be dried and blown into the air which is inhaled tuberculosis may result.

DOCTOR MAASS: One point was interesting to me, and that is the apparent immunity of the Icelanders. It seems that where they come in contact with Europeans the disease becomes prevalent, but it does not exist in the interior.

DOCTOR HARTZ: The theory that a rheumatic diathesis protects against tubercular infection and spreading of the tubercular process seems a proven fact. One of my patients has had tubercular cavities for ten years and for the last eight years the process has remained stationary, he having developed during this period a marked rheumatic taint which at times causes much pain. I advise my tubercular patients to partake of plenty of meats and fats. I believe that in some instances the tuberculosis germ is directly transmitted to the offspring through a weakened placenta. This has been observed in the human subject as well as in animals by competent authorities. A specific tubercular diathesis seems to be transmitted in families in which one member after another die, despite the best treatment. That a predisposition may be acquired is unquestionably true of tuberculosis and other infectious diseases by such causes as interfere with cell nutrition. That infection with tubercular germs is very frequent is proven by pathologists who, by macroscopical and microscopical methods, demonstrate that two thirds of the human race show evidences of tubercular infection. The tendency of the best thought is to emphasize the contagiousness of tuberculosis, and to urge prophylactic measures in the way of destroying the germs. Heredity and predisposition, according to VIRCHOW, do not play the important role generally ascribed to them. His investigation about leprosy in Norway and Sweden convinced him that the disease is acquired by association and not by heredity as was generally supposed. VIRCHOW proved that many individuals had acquired leprosy whose family history showed no taint or predisposition. This may some day be found true of tuberculosis, and I consider it good practice to tell members of families in which consumption exists, and the patient also, that the disease is more often acquired by association with unclean consumptives than acquired by direct or indirect heredity.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, APRIL 7, 1898.

THE PRESIDENT, LOUIS E. MAIRE, M. D., IN THE CHAIR.

REPORTED BY J. H. SANDERSON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR E. D. RICE, of Flint, Michigan, read a paper entitled "The Physiological Functions of the Liver, with their Relation to the Digestive Process." (See page 24.)

DOCTOR E. G. KNILL: The paper was very elaborate. I have no doubt it has included every function of the liver. It is well known that the liver, stomach, and duodenum react upon one another. A disturbance in one will excite trouble in another.

DOCTOR E. V. RIKER: I was much pleased with the manner in which the essayist treated the subject. We, as physicians ought to study these functions of the organs of the body more carefully; then we would be better able to treat diseases more intelligently.

DOCTOR C. D. AARON: I have been much interested in the paper, especially the part relating to that function of the liver which has to do with the elimination of toxins from the system. In experiments with a decoction of nicotine and particles of liver injected into the circulation of a dog there were no toxic symptoms produced. We know that there are toxins formed in the intestine and we know that it is the liver which eliminates them from the system.

DOCTOR J. A. WEITZ: There is no doubt that a great many ills are due to some derangement of the liver either through a lack of nourishment, or by a deranged nerve or blood supply or obstruction of flow from the liver. Older physicians who were accustomed to lay nearly every ailment at the door of the liver were perhaps not so far astray after all. Our lives are saved by our livers, for there are sufficient toxins formed in the body every day to overwhelm us.

DOCTOR E. B. SMITH: I would call attention to the location of the cystic artery, which should be remembered by every surgeon when doing an operation on the gall-bladder or duct. This the essayist omitted.

Doctor E. K. Bacon: I wish to differ with **Doctor Rice** on certain anatomical conditions. The old anatomists traced the sympathetic nervous system to the capsule. **Doctor Robert Lee** traced it to the liver cell. The liver cell is controlled by the sympathetic nervous system, its jurisdiction being over only the secretion and the excretion of bile. The glycogenic function of the liver is controlled by the cerebrum.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, NOVEMBER 8, 1898.

The President, FREDERICK W. ROBBINS, M. D., in the Chair.

Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor F. B. Tibbals read a paper entitled "Observations of a General Specialist." (See page 31.)

Doctor Manton: The writer assumes too much for the "special" specialist. Not many of them do much general practice. I do not attempt to treat all diseases, but I do give tonics and cathartics. I often refer a case to a general practitioner or back again to her own physician. He does not define the "special" specialist.

Doctor Winter: I was much interested in the paper. When I first began practice I took out Meibomian cysts. I treated catarrhal ophthalmias, but I did not treat the bad cases. I believe the general practitioner should be more careful about looking after eyes, especially in syphilitic cases. In such cases I treat an iritis when it occurs, as I believe that all that is required is antisyphilitic treatment and keeping the pupil dilated.

Doctor Biddle: My experience is that the special specialist is a necessity. He has been demanded by the people because one man cannot know everything about medicine. A man who devotes his whole time to one class of cases must know more about that class than the general practitioner. I am thoroughly in favor of the men who do special work. While the field may be small there is nevertheless a distinct place for the specialist.

Doctor Wilson: I believe the general practitioner should take care of all cases that he can, but that he ought to send patients to the specialist when he has not had sufficient experience to treat them. If I have a case of hernia I do not operate, but send the patient to a specialist; but all ordinary cases that I can diagnose and treat I attend myself.

Doctor Connor: I have enjoyed the delineation of a general "specialist," and by inference of the special specialist. Specialism is as old as anything I know about. In Egypt there were many specialists. Workers along particular lines have increased as our knowledge has increased. Most of the advance made in medicine has been by special workers. The specialists at first took up branches that had reproach attached to them, and made them honorable. Electricity, ophthalmology, et cetera, were at first in the hands of quacks and the specialists have made them reputable. Knowledge which has been acquired by the special worker has been disseminated, and is now in the hands of the general practitioner to his benefit. The specialist covers up many mistakes made by the general practitioner. Yet he, too, makes mistakes. The curse of modern specialism is the man who acquires all his special knowledge in six weeks, but the real specialist and the general practitioner will go on helping one another. We are not to go back to the dark ages. The general practitioner is the most useful man in the community. I only wish there were more who could take care of cases that they thoroughly understood. I never saw a specialist who objected when a general practitioner treated a case he could handle.

Doctor Collins: The paper has been a literary and humorous treat. The object was undoubtedly to add dignity to the general practitioner. As medicine broadens more specialism has been demanded, but in the future the general man will occupy a different place. At present the specialist occupies a place of prominence that the general practitioner cannot achieve, yet with his more extensive way of getting at relations he should be able to treat many cases better than the specialist. A man with thorough surgical principles should be able to do surgical work which needs but the ordinary skill and surgical training, no matter what it is. The eye and the ear will always be a specialty, and must be handled by the specialist. Difficult cases cannot be handled by the general practitioner as well as by the specialist, and such cases should be turned over to him. I fail to see that the paper has done more than attempt to define the proper respect due to the general practitioner.

Doctor Tibbals: I did not intend to raise a conflict with the specialists. My clearly defined idea was a plea for more prominence to be given the general practitioner, and for more harmony among the two classes. Specialists have undoubtedly given most of the ideas in new lines. In my opinion specialism in the future will be modified somewhat. The general practitioner will take a higher stand. He will post himself so that he will be considered competent to treat the average run of cases. There will be the specialist, but he will be a consultant working in harmony with the general practitioner. The specialist now has the long end of the rope, and does not sufficiently regard the rights of the general practitioner. Every man who is competent is entitled to a living.

Doctor Robbins: From the standpoint of a general practitioner it would seem to me that the general practitioner strives to mount a higner pedestal than the specialist. A man with a literary degree, a thorough medical course and hard study abroad, should after ten years of training be qualified to practice, and people will respect such a man. He may then take up some special line, or may be forced to do more work along certain lines. As we find the general practitioner now among people of limited incomes, he must do a good deal of work for a small remuneration; he may find one class of work more pleasing, and so to do full justice to this line he lets other work go. As a result he must get larger fees, and hence work along his particular line comes to him more and more.

STATED MEETING, NOVEMBER 22, 1898.

The President, FREDERICK W. ROBBINS, M. D., in the Chair.

Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Heneage Gibbes read a paper on "Sarcoma." (See page 1.)

Doctor H. O. Walker: I have nothing especial to say, but the paper has given me food for thought. I am unable to discuss the paper intelligently. I have little faith in the serum treatment. In a certain class of cases of epithelioma of the face and skin Marsden's paste has been effectual especially in old men and women.

Doctor Emerson: I have no business to say anything for my experience has been slight. I have listened with interest but I feel that the essayist stopped just at the point where I hoped he would be able to tell us how to prevent the growth. I hope that he may later take up the subject so as to tell us along what lines to work.

Doctor Hitchcock: I should like to ask whether there has been any treatment made along the lines suggested?

Doctor Warren: This paper has given me a better idea than when I used to hear the doctor lecture upon this subject at the University. I have really learned more from this paper than from a whole semester of lectures. I am not qualified by experience to discuss this subject but have been interested in the paper. I should think that the suggestions offered ought to help him or others to treat this disease. I should like to ask if he cares to say anything about Coley's fluid and the serum treatment.

Doctor Hickey: This paper has stirred up thoughts present three years ago when I had under treatment three malignant cases, one of the tonsil, one of the right nostril involving the antrum of Highmore and one of the tongue. Coley's fluid was used in all three cases, starting with one minim and increasing to four minims. In one patient the growth for a time seemed improved but later treatment did no good. In the tongue case the glandular tissue was involved and the injection was into this but it was of no benefit. I saw no improvement from its use.

Doctor Chittick: What therapeutic agents have we that will act upon such cases? Iodide of potash would seem to be the best we have.

Doctor Robbins: The word "influence" sounds like the words of Christian science, of which the intelligent man gets no concrete idea. Influence has several significations. In a new growth there is an external and internal influence. The paper speaks of the internal form. In an epithelioma upon which a paste is used and recurrence follows, an external influence has done it all. It has long been understood that arsenic retards growths like this. What the relation between growth and influence is, I cannot exactly see. I do not see what is better than surgical means. When a case is beyond surgical means, I have seen little that is effective in treatment. Coley's fluid seems to be ineffectual yet Coley himself still believes that it gives results.

Doctor Gibbes: I may have a chance for further experiment along the lines mentioned but as yet I have done little. I hope others will take up this work.

Doctor Wyman: While I did not hear the paper I take it the subject was the control of sarcoma. Even after an enucleation we are never able to tell whether we have operated at an early enough stage to remove it entirely until time alone shows. If it recurs we have interfered too late. Coley's fluid is not better than zinc chloride, alcohol and the older local applicants. The size of the sarcoma is not of as much importance as the amount of diffusion. If all tumors were removed as soon as discovered there would be fewer deaths from malignant disease.

EDITORIAL ARTICLES.

ARE MEDICAL ETHICS DECLINING?

The relations of the medical fraternity within and without have changed and are still further changing from the attractive (?) ideals of the hoary past. Labor saving inventions, varied new industries, the concentration of the population in large centres, modified forms of government, advancing knowledge and increased possibilities, the multiplied army of doctors and the hotly contested conflicts in the competition for livelihood and fame have wrought changes in the profession among its members and apparently raised a barrier of commercialism between them and their patients. These changes, however, have not come about unnoticed and unfelt. Here and there rude shocks have been dealt and received in silence. Now and then a voice has been lifted in defense against and in deprecation of the unexpected assaults. We have indeed heard the appeals for a return to the good old times and a renewal of the conditions that surrounded the family doctor in storied fame. But a return to those times and a restoration of those conditions are as impossible as the return of yesterday. Moreover we should not and we do not wish to take one such step backward. We live in a progressive age and are actors on a stage of developing physical, intellectual and moral life. Our course may be zigzag, but our progress is assured. In our present relations we have and enjoy the essence of that which was permanent and most desirable in other days. We enjoy also the advantages of a higher civilization, and as a profession take no small part in its production and maintenance. Our mutual relations are not as sentimental today, perhaps, as yesterday, but our quickened mental and moral powers are stimulated and guided by essentially the same obligations that our predecessors felt. We believe in the present existence of as wholesome respect and cooperation between the generality of medical men as was ever shown. There are exhibitions here and there of a lack of these qualities, but they are failures in the individual, not in the class. Class sympathy and class unity are as strong in the medical profession as in any other. Except for the petty meanness that characterizes the pigmy type we enjoy as cordial and helpful good will as may be found in any class.

Regarding the attitude of the public toward medical men there is needless misapprehension. When we review the history of our profession we may be pardoned feelings of gratulation for the many evidences of its advancement. Except in the highest and noblest sense the term servant has now no application to us. We have risen from the humble rank of the Greek slave to the guardianship not only of men but of empires. We have enhanced the general welfare and made ourselves necessary to its continuance. That a lively appreciation of the value of dignified medical service should result may reasonably be expected of us and a credit to our candor and worth it is. If perchance the public esteem it less the court of honorable and healthy competition will determine its justice. That our social equanimity is thereby disastrously or even measureably disturbed we do not believe. Neither does it appear to us that we are either under or overpaid in comparison with other professional classes and trades. We have the fullest confidence in the issue of controlling natural laws. They operate for the good of the whole and discriminate for neither individual nor class. The public can have no grievance toward us and we should not have one toward it. There may be individual discontent, contempt and possibly injury, but the common weal is undisturbed and medical ethics continues in harmonious relation with general progress and the duties of all.

ENGLISH LAW AND CRIMINAL ABORTION.

THE law of England relative to criminal abortion has of late exhibited an uncertainty of interpretation as well as of execution. Three recent cases, in which the real offense was the same, have aroused no little interest on account of the medico-legal questions involved and the disparity in the sentences imposed. According to the *British Medical Journal*, a MRS. UZIELLI, a fashionable lady, finding herself pregnant, but not wanting more children, applied to a DOCTOR COLLINS for relief. Abortion was induced by him, septic infection resulted and death ensued. In the trial that followed the Attorney General told the jury that if the act which caused death, although felonious, was "not in itself necessarily dangerous to life," it was open to them to bring in a verdict of manslaughter. He was convicted of manslaughter, but got seven years penal servitude.

In another case, related by the same journal, a JOHN LLOYD WHITMARSH, a medical practitioner for more than thirty years, was tried on a charge of procuring abortion upon an unmarried girl aged twenty-six, but the jury disagreed. In a subsequent trial he was convicted of wilful murder and a sentence of death was passed, though it was afterward commuted to penal servitude for life. This girl was shown to have died from mercurial poisoning following the doctor's overzealous and blundering efforts at asepsis. In this trial MR. JUSTICE BIGHAM is reported to have thus charged the jury: "I tell you as a matter of law, if you are of opinion that he did commit a felony, and that as a result she died, that is murder. It does not matter what his intention was; the law does not stop to ask. He is guilty of murder just as much as if he had taken a knife and stabbed her to the heart."

Since this case a woman named OVERSHOTT, who induced a miscarriage by inserting a catheter into the womb, has been sentenced to eight months imprisonment with hard labor. In this instance the patient did not die, a fact no doubt explaining the disparity between this sentence and the punishment given COLLINS and WHITMARSH. This is obviously, however, only a trick of the law since the felony is after all the procuring of abortion.

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Concerning the positions assumed by the court in the former two cases the *British Medical Journal* has this to say: "No one who looks into the authorities can doubt that MR. JUSTICE BIGHAM has correctly stated the law as it is, much as we should prefer the "reasonable" limitation of it proposed by SIR JAMES STEPHEN and boldly adopted by SIR RICHARD WEBSTER. But it is not likely now that anything short of an act of parliament will bring about the adoption of SIR JAMES STEPHEN'S suggestion."

CONTAGION AND INFECTION.

DERIVATIVELY these two terms possess slightly different meanings, to which writers may be said to usually adhere and on the basis of which they classify communicable diseases as either contagious or infectious. It is questionable now, however, whether such a classification serves any useful purpose or even clarifies our knowledge of these diseases. The points of difference as expressed by FLICK, in the *Philadelphia Polyclinic*, are:

"(1) That, in contagion, the chain of contact between the person giving off the disease and the person receiving it must be complete and unbroken, whilst in infection the chain of contact may be broken by an intermediate agency, or host. (2) That, in contagion, the environment, under which communicability is operative, is limited, whilst in infection the environment, under which communicability is operative, is general."

While it is true in contagious diseases that the chain of contact between hosts is usually complete and unbroken, such is neither essentially nor always the case. Scarlet fever, for instance, which is considered a typical contagious disease has been known to spread through intermediate agency. On the other hand pneumonia, the infectious character of which laboratory studies have discovered, may, theoretically at least, spread by as unbroken a chain of contact as is possible in either tuberculosis or diphtheria. That all such diseases do not possess communicability in the same degree is due to several factors. The virus of the exanthemata is eliminated from the skin and, adhering to epidermal scales, is readily caught by another host. In typhoid fever and cholera, however, infection more rarely occurs since the virus is eliminated only by way of the feces. The mode of discharge of the virus is therefore of great importance, as is also its quantity, its destructibility by heat, cold, dryness and manner of transportation. It is by reference to the last named factor that the spread of communicable diseases may be prevented. The aim is to quarantine the virus, to accomplish which it is necessary in some instances to quarantine the patient.

If the virus of these several diseases were to always gain admission through the same channels, the terms contagion or something "touched with", and infection or something "borne into", might be definite and distinctive. In the light of our present knowledge the studious attempt to keep them distinct appears to be useless. They should be regarded what they are—synonymous terms.

ANNOTATIONS.

JOHN B. HAMILTON, M. D., LL. D.

We regret to chronicle the death, on December 24, 1898, of a distinguished professional man and great medical journalist, Doctor John B. Hamilton. His career, which ended at the age of fifty-one, was one of unusual activity and marked success. He entered the military service of the United States in the capacity of assistant-surgeon at an early age, but in 1876 was transferred to the Marine Hospital service in which, within four years, he rose to the rank of Surgeon General. His services here were of a high character. The department was reorganized and made most efficient in isolating and quarantining against yellow fever and cholera. In addition to the demands of his office he was Professor of Surgery in the University of Georgetown. In 1892 he resigned these positions of influence and responsibility and accepted the Professorship of the Principles of Surgery in Rush Medical College, his alma mater. It was at this time that the organ of the American Medical Association, *The Journal*, enlisted his remarkable energy and abilities. Under his editorship *The Journal* rapidly gained influence and importance. It is now in truth *the* organ of the medical profession in this country. Doctor Hamilton's ambitions were not satisfied with these successes. He was engaged in a large private practice, had many local interests and in 1896 became Superintendent of the Northern Illinois Hospital for the Insane. Failure met him nowhere. Happily his great powers found large fields for exercise and he was able to witness, before his departure from a field of activity, the effect of successful work.

OUR PACIFIC COAST.

We who live remote from the Pacific coast seldom realize the danger with which we are threatened by disease from Asiatic ports and fail to be impressed with the governmental restrictions of commerce with those points. According to **Brooks**, small-pox alone of the five quarantinable diseases has been brought to us from Asia although we are menaced by cholera, leprosy and the plague. The last named disease, of which history presents a vivid picture in the "black death," held continuous sway for thirty-five years in Mengtsz, province of Yunnan, China, and has reappeared periodically in Pakhoi, Canton, Hongkong, Swatow, Amoy, Foochow, in Macao and the island of Formosa. It exists in Formosa now. Japan has succeeded in stopping its spread. In 1894 an epidemic occurred in Hongkong and Canton and in the latter place in a population of 1,500,000 the deaths were estimated at 40,000 to 60,000. Cholera is present sporadically in these and the more northern cities, and in Japan nearly every year and epidemics have occurred every few years. **Brooks** states, in *The Medical Sentinel*, that "many of the best foreign physicians in Japanese cities believe it has been endemic for the last twenty years." Leper colonies exist in every large city in China and there appears to be no restraint upon their liberties. A census of lepers in Japan showed 23,647 in a population of 45,000,000. One thousand cases are isolated on the island of Molokai in the Hawaiian group. Small-pox exists continuously in Chinese cities and patients intermingle with others on the streets. Between 1891 and 1897 there were five epidemics in Japan and 40,000 cases were recorded in the first six months of 1897. These facts are of lively interest in view of the increasing trade and communication with those countries and our new relations in the Pacific and the East Indies. In respect to cholera and the plague the quarantine limit far exceeds the accepted periods of incubation. Infection is possible, however, through personal effects, bedding, clothing and articles of importation, including the soil in which lily bulbs are packed. The lack of inspection at embarking points and the not infrequent appearance of small-pox on incoming ships plainly indicate the need for a most rigid inspection and careful disinfection at our western ports of entry.

CONTEMPORARY.

REGARDING MEDICAL JOURNALISM.

[MARYLAND MEDICAL JOURNAL.]

* * * The question has been asked, Does medical journalism advance *pari passu* with medical progress? We answer yes. As intimated above, the medical journal is the real exponent of its environment, and is influenced and modified in its growth and development by surrounding conditions. It is but the crystallization of thought and aspiration; the embodiment and revealer of purpose and aim; a luminant condensing light to scatter; a means of professional intercommunication for the dissemination of medical facts and theories; a channel to convey the products of prior conceptions.

According to the rules of differentiation, medical journals may be classified as local and national, or general. Some are maintained as "house organs," to adroitly advertise the products of the proprietor, or issued by publishers to announce their works; others are owned and edited by physicians supplementary to their practice, while not a few are conducted in favor of schools and other institutions. A limited number are independent in their management. The value of the medical journal, as viewed from the standpoint of the individual physician, depends foremost upon the relationship which that particular journal sustains to the practitioner's own field of activity. While every progressive physician is constantly expanding the horizon of his acquirements through access to journals both local and general, yet it is the royal prerogative and bounden duty of every loyal Aesculapius to cooperate primarily with his home medical publication, for it is to this source that he must look most expectantly for the advancement of his monetary as well as scientific interests.

MEDICAL NEWS.

A DETROIT PHYSICIAN HONORED.

THE following is a copy of a letter recently addressed to Doctor J. H. Carstens, and is self-explanatory. The kind invitation has been accepted, and the profession in Detroit greatly appreciate the honor conferred upon one of its progressive members:

NEWARK, NEW JERSEY, December 8, 1898.

MY DEAR DOCTOR: Our Secretary, Doctor William Warren Potter, has been requested by the Secretary of State to ask the American Association of Obstetricians and Gynecologists to name a delegation from its membership to represent our country at the International Congress of Gynecologists, held at Amsterdam in August of the coming year. This is an honor of no little importance, and merits our closest attention.

As the appointment rests with the president of the association, he is the most anxious to appoint none but the strongest, best known and most scientific men.

I am anxious that you should be one of that number, since your presence will not only cast lustre upon our country, but also upon the association which is so near to our hearts.

An early reply will greatly oblige,

Yours very obedient,

To Doctor J. H. Carstens. EDWARD J. ILL.

DOCTOR BELL RESIGNS.

DOCTOR SAMUEL BELL has tendered his resignation as medical superintendent of the Upper Peninsula Hospital for the Insane, located at Newberry, and although it has not yet been accepted, the doctor intends to sever his connection with the institution in the spring. Several reasons conspired to prompt this action by the doctor, foremost among them being a desire for more outdoor exercise for himself and better educational advantages for his family. As a result of close confinement and mental overwork the doctor's health has been impaired and a trip to Europe is contemplated, after which he will resume practice in Detroit. Doctor Bell was appointed in June, 1895, and has performed a vast amount of medical and executive work in developing the institution over which he enjoys the privilege of being the first presiding officer.

MINOR INTELLIGENCE.

THERE are eight additional pages of reading matter in this number.

BRUSH has discovered a new element in the air and christened it etherion.

A MONUMENT to Charcot, erected in front of the Salpetriere, was unveiled December 4.

GOVERNOR ROOSEVELT has reappointed Doctor Alvah H. Doty health officer of the port of New York.

THE Kansas City, Pittsburgh and Gulf Railway Company proposes to build a hospital for its employes at Kansas City.

A MONUMENT has been unveiled at Copenhagen, Denmark, to the memory of Hans Wilhelm Meyer, whose chief work was in the line of adenoid growths of the pharynx.

CONGRESS has extended a vote of thanks to Clara Barton and the officials and agents of the Red Cross Society for their humane services in the Spanish-American war.

AN examination of applicants for admission to the grade of assistant surgeon in the Marine Hospital Service will be conducted by a board of officers at the United States Marine Hospital, Chicago, February 14.

THE American Gastroenterological Association will meet at Washington, District of Columbia, in May, 1899, under the presidency of Doctor D. D. Stewart, of Philadelphia. The secretary is Doctor Charles D. Aaron, 32 Adams avenue west, Detroit.

SIR WILLIAM JENNER, physician-in-ordinary to the Queen and Prince of Wales, died December 11. In 1894 he was awarded the Moxon medal, which is voted every three years to some one rendering distinguished service in the field of clinical medicine.

THE Arkansas Supreme Court sustains the doctrine that in case of an emergency the employment of a physician by the highest railroad official present is the act of the company, and it will be liable for the value of the services rendered to one in the employ of the company, injured by the running of its trains.

DOCTOR SIMON POLK, of Saint Louis, is defendent in a suit for ten thousand dollars damages brought by Miss Winnie Winhurse, who for the last ten years has been under the doctor's care for an affection which destroyed the use of her limbs. She claims that the doctor wrote an article for a morning paper describing her case and referring to it as remarkable, subjecting her to embarrassment and ridicule.

THE annual meeting and banquet of the Kalamazoo Academy of Medicine occurred on the 17th instant. The paper of the occasion was read by Doctor H. O. Walker, of Detroit, and will be published in the February number of The Physician and Surgeon. Talks on medical topics were given by Doctors Hugh T. Patrick, of Chicago, and James N. Martin and Frederick G. Novy, of Ann Arbor. Nearly one hundred physicians were present. The following officers were elected for the ensuing year: President, Doctor C. Van Zwaluwenburg; vicepresidents, Doctors R. McNair and J. E. Maxwell; secretary, Doctor A. D. Lake; treasurer, Doctor O. B. Ranney; librarian, Doctor E. H. VanDeusen; censors, Doctors S. H. O'Brien and J. W. Bosman.

THE New Orleans Board of Health refused to allow the French Navigation Company's steamer, Britannia, which recently arrived at the mouth of the Mississippi with four hundred and eight Italians aboard, to land, believing that its passengers would provide fresh material for yellow fever, and consequently has a suit for damages on its hands, the company claiming the ship had a clean bill of health, and congress alone had the right to regulate foreign commerce.

RECENT PUBLICATIONS.

REVIEWS.

PRACTICAL DIAGNOSIS.*

IN this volume, the supplement to "Practical Therapeutics," the author has again hit the mark. The appearance of three editions within two years indicates a high degree of popularity and utility. The treatment of the subject of physical diagnosis first from the points of view of the several bodily organs, and second from the standpoint of symptoms is novel, interesting and doubtless chiefly responsible for the success of the work. The practicability of this order is unquestionable. The consideration of physical signs as such, the method usually adopted in other text-books, is nevertheless scientific and important. Credit is due the author also for the clever grasping of the essentials of the subject and for their effective presentation. The index is especially full and servicable. We bespeak the continued esteem by the profession for this valuable contribution.

*By Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Third edition, enlarged and thoroughly revised. In one octavo volume of 615 pages, with 204 engravings and 13 full-page colored plates. Cloth, $4.75, net. Lea Brothers & Company, Publishers, Philadelphia and New York.

TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY.*

IN a recent review of this work we made favorable mention of the synthetic mode of classifying drugs according to their therapeutic affinities, used by the author. This seems to us the scientific method of treatment of the subject. A revision within so short a time is scarcely demanded although such has been done in the second edition. In place of a short chapter on definitions a valuable article on the untoward effects of drugs has been substituted and serum therapy and nuclein receive more consideration. The work is complete and gives evidence of careful preparation.

*By George Frank Butler, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois; Professor of General Medicine and Diseases of the Digestive System, Chicago Clinical School; Attending Physician to Cook County Hospital; Member of the American Medical Association, Illinois State Medical Society, Chicago Medical Society, Chicago Pathological Society, and the Chicago Society of Internal Medicine; Fellow of the Chicago Academy of Medicine, et cetera. Second edition, revised. Price, cloth, $4.00 net. Sheep or one-half morocco, $5.00 net. Philadelphia: W. B. Saunders, 925 Walnut street, 1898.

VENEREAL DISEASES.*

At first sight this small volume seemed hardly called for on account of the recent publication of larger and more pretentious works. It will be welcomed, however, by many students and practitioners for the compact and eminently practical manner in which the subject is presented. The author is conservative, judicial and at the same time modern in thought. In its revised form the work is up to date.

*By James R. Hayden, M. D., Chief of Clinic and Instructor in Genito-Urinary and Venereal Diseases, College of Physicians and Surgeons, New York; Professor of Genito-Urinary and Venereal Diseases in the Medical Department of the University of Vermont, et cetera. New (second) edition, revised and enlarged. In one 12mo volume of 304 pages, with 54 engravings. Cloth, $1.50, net. Lea Brothers & Company, Publishers, Philadelphia and New York.

THE MEDICAL NEWS (1899) VISITING LIST.

Now is the season of visiting lists and a good time to open new and useful records. This problem, a bugbear to many physicians, is solved as nearly as possible by the "Medical News Visiting List," which is neat, handy and suitable for any system of accounts. It contains also emergency data.

*Weekly (dated, for thirty patients); Monthly (undated, for one hundred and twenty patients per month); Perpetual (undated, for thirty patients weekly per year); and Perpetual (undated, for sixty patients weekly per year). The first three styles contain 32 pages of data and 160 pages of blanks. The sixty-patient perpetual consists of 256 pages of blanks. Each style in one wallet-shaped book, with pocket, pencil and rubber. Seal grain leather, $1.25. Thumb-letter index, 25 cents extra. Philadelphia and New York: Lea Brothers & Company.

DIET FOR THE SICK.*

This handy booklet consists of first a short dissertation on fluid foods and the serving of them, second recipes proved to be generally suitable for the sick, third diet tables for special diseases, and fourth criticisms and comments upon nursing. It would be of great service in many homes.

*By Miss E. Hibbard and Mrs. Emma Drant, matrons at two large hospitals in Detroit. One hundred and three pages, board sides, postpaid, 25 cents. The Illustrated Medical Journal Company, Detroit, Michigan, Publishers.

REFERENCES.

WORKS IN PREPARATION.

Lea Brothers & Company announce a new annual which will be published in four volumes of about 400 pages each, handsomely bound in cloth, richly illustrated, and issued at quarterly intervals, the first volume to appear in March. The title of the work will be "Progressive Medicine," and Doctor Hobart Amory Hare is announced as supervising editor, a brilliant coterie of the younger element of the profession to be his collaborators. The four volumes will be sold at the very reasonable price of ten dollars.

Lea Brothers & Company announce the early appearance of "The Practice of Obsteterics" by American Authors. This work is edited by Professor Charles Jewett, M. D., and its contributors embrace many teachers in leading medical colleges, whose vast experience in this special branch will greatly enhance the value of the volume.

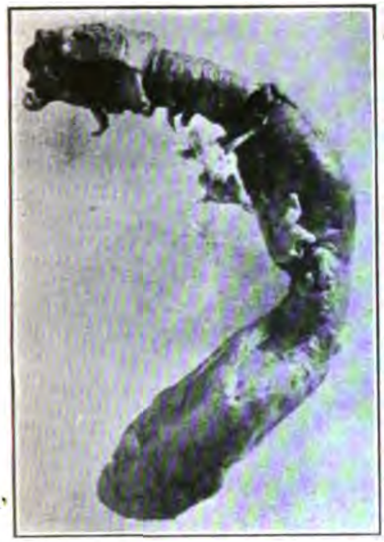

FIGURE I.
Case XXXIII—Appendix.

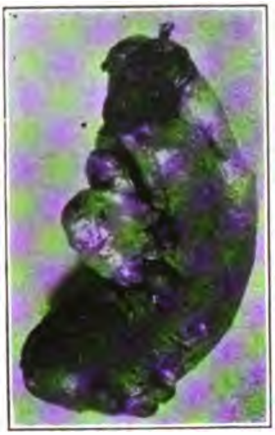

FIGURE II.
Case XXXI—Appendix.

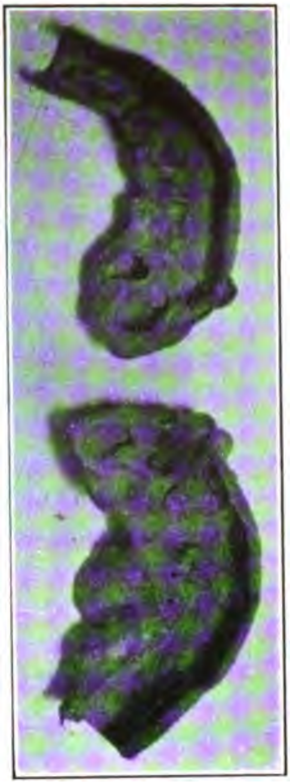

FIGURE III.
Case XXXI—Longitudinal Section of Appendix.

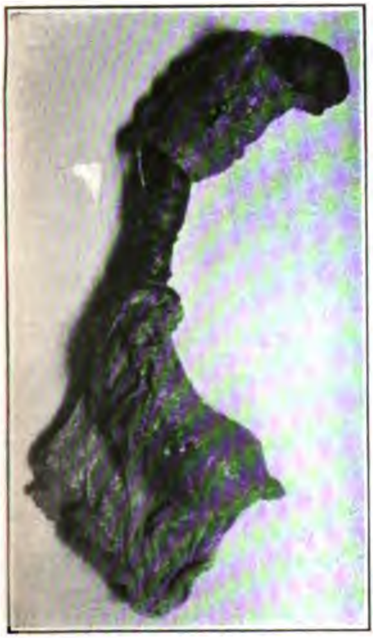

FIGURE IV.
Case XVIII—Appendix Constricted with Concretion near Tip.

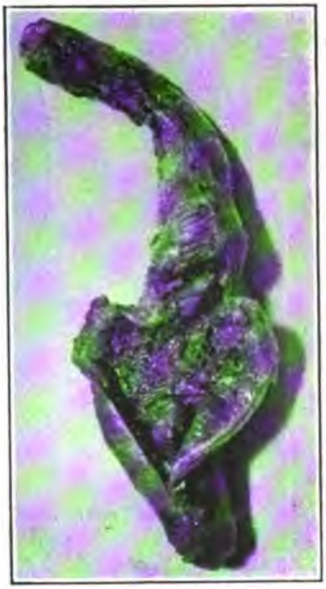

FIGURE V.
Case XXXVI—Appendix Opened, Showing Fecal Concretion.

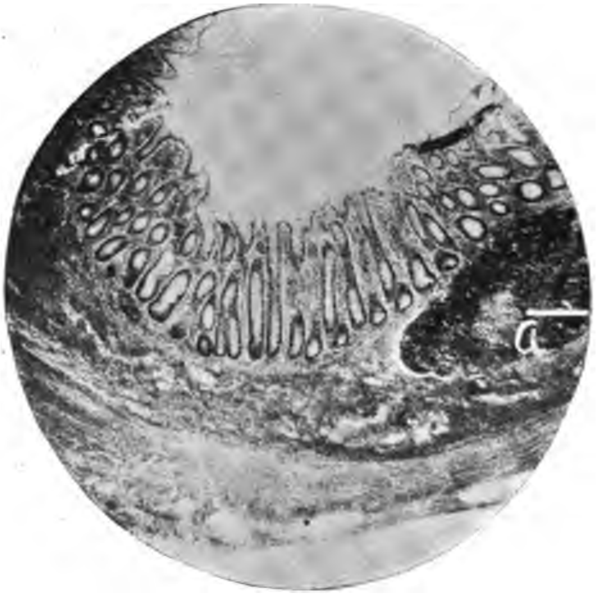

FIGURE VI.

Case XIII—Cross-Section of Appendix (X 60).—(*a*) *enlarged lymph gland.*

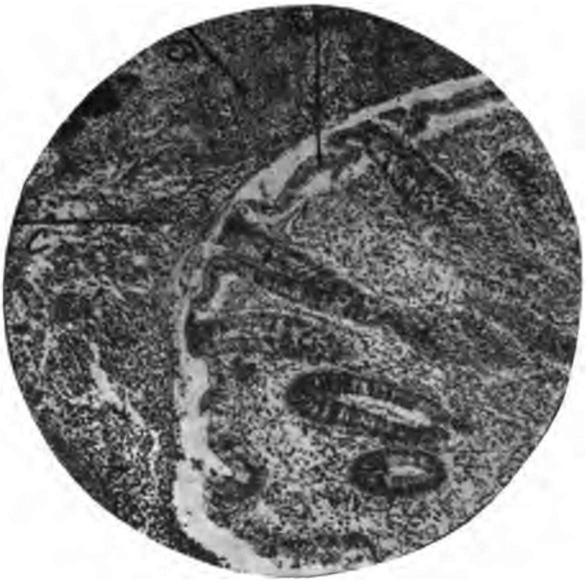

FIGURE VII.

Cross-Section of Appendix at Narrowing of Lumen by False Membrane (X 60).

(*a*) *Layer of columnar epithelium of the mucous membrane.*
(*b*) *False membrane with red blood cells.*
(*c*) *False membrane with leucocytes.*

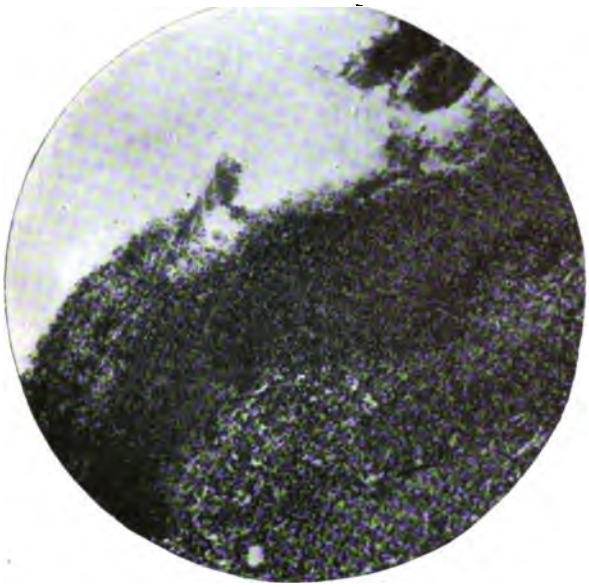

FIGURE VIII.

Cross-Section of Appendix, Showing Necrosis and Ulceration from Extensive Round-Celled Infiltration and Blood Stasis (X 60).

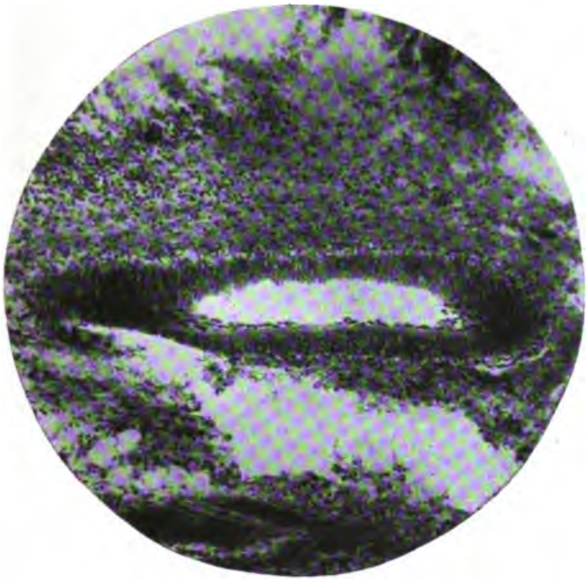

FIGURE IX.

Section of Dilated Blood-Vessel in Mesentery of Appendix (X 60).

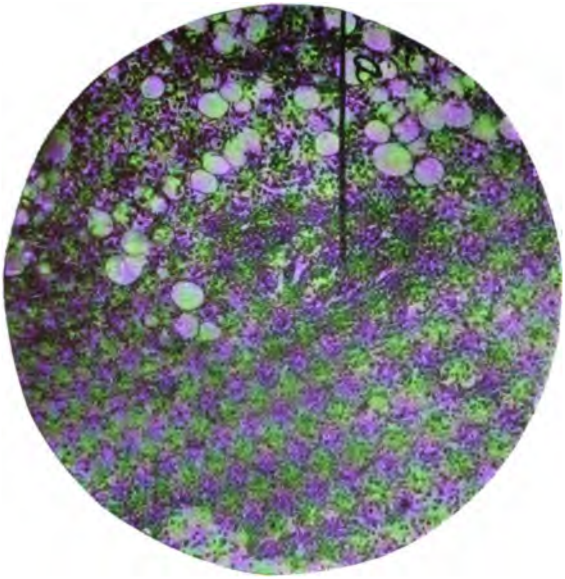

FIGURE X.

Section of Meso-Appendix (X 60), Showing—(a) *Localized round-celled infiltration.*

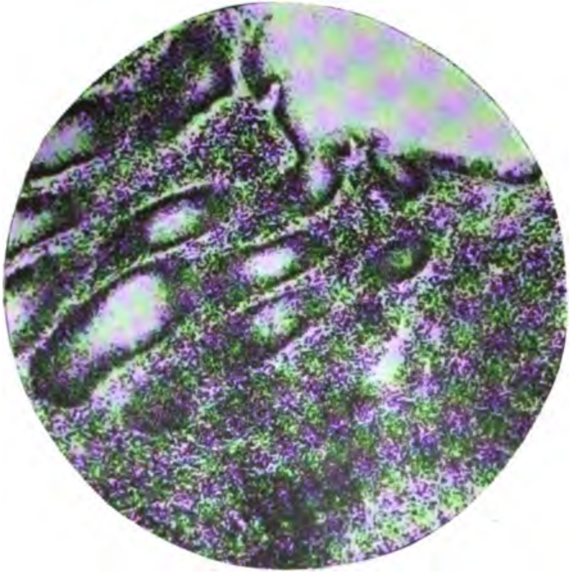

FIGURE XI.

Section of Appendix Showing Infiltration of Leucocytes Between Gland Tubules (X 60).

The Physician and Surgeon

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

APPENDICITIS.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE most frequent intraperitoneal inflammation, except possibly that arising from the female pelvic organs, and the most interesting surgical topic of the day is appendicitis. Thousands of pages have been written about it and still the last word has not yet been said. Although surgeons generally have definite ideas as to what should be done with cases of appendicitis, yet the great majority of the profession have still misty ideas regarding it. Therefore, it may not be out of place for me at this time to offer a modicum of thought upon this interesting and important topic. It is not a fad as some of our good brothers would have us believe, evidences of which are too painfully apparent, covered-up, but not hidden away in the silent cities of the land. I take it that the great body of our profession are sufficiently informed to diagnose a case of appendicitis. That, however, is not the question. The question is, should an operation be performed for the relief of appendicitis or should it be left to be settled by the contention of two living organisms, namely, bacteria and fixed tissue cells? The burden of the responsibility rests with the general practitioner, to whom is first referred these cases in most instances. He must be the arbiter. We all admire conscientious conservatism, yet conservatism hitched up with hesitancy makes a bad team. On the other hand, bold, foolhardy rashness should have no admirers.

What is appendicitis? It is a septic infection of the appendix, designated to within a little over a decade ago under a variety of aliases, namely, typhlitis, perityphlitis, psoitis, intestinal obstruction (within the last four weeks I have had no less than three calls to see cases, in consultation, diagnosed as such, which on examination gave typical evidences of appendicitis), intussusception, et cetera, with frequent mistaken diagnoses of renal colic, gall-stones and salpingitis.

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* Read before the KALAMAZOO ACADEMY OF MEDICINE Tuesday, January 17, 1899.

Why is the appendix so frequently affected in contrast to other abdominal organs? First: The predisposing cause of the disease is in the appendix itself, for it is a sickly child at best, in other words, it is degenerate. Its muscular coats are of a devitalized character, rather fibrous than muscular. Its nerve supply is limited in contrast to the other parts of the alimentary tract. Only one artery furnishes it with nourishment. Its bulk is largely made up of mucosa and lymphoid tissue. Second: Such a composition renders it more liable to slight trauma, the primary exciting cause of the large majority of cases of appendicitis. Its liability to trauma is undoubtedly due to its location, resting as it does upon the much used ilio-psoas muscle, together with its short mesentery and its inability to empty itself of its contents. Therefore, any abrasion of the mucosa gives opportunity for the invasion of any of the specific bacteria, whether one or more varieties is still a mooted question. The ever-present bacterium coli cummune in the intestinal canal seems to be most in evidence, as the master of ceremonies in the tragedy, assisted by some of the varieties of streptococci and bacilli with an occasional staphylococcus, for they are all scavengers that find a residence in the colon. All are innocent in character until an erosion of the mucosa takes place when their activity becomes manifest, the extent of which is governed by the extent of the interference of circulation. Foreign bodies other than enteroliths found in the appendix are rare. I have never seen any in the *one hundred and fifty-seven* cases that I have operated upon, and these enteroliths in my opinion have been formed in many instances as the result of a stenosis of the appendix from a former attack of appendicitis. These enteroliths or fecal calculi increase as do other calculi by accretion and sooner or later by their presence produce erosions permitting invasion of infecting bacteria, the source of another attack of appendicitis, the intensity of which will depend upon the resistance of the fixed tissue cells. Frequent attacks of appendicitis that are confined to the appendix occasionally end in the obliteration of the appendix, producing spontaneous cures. Those attacks are spoken of as the simple variety, that is, a mild type of appendicitis. Although many varieties of appendicitis are described by writers, it would be, in my opinion, better to describe them as degrees of intensity of the disease. Catarrhal appendicitis is only a mild degree of infection, while the so-called fulminating variety is a degree of intense character.

It cannot be denied that appendicitis frequently gets well without an operation or a subsequent attack, yet it could not be forestated at the onset that it would be so. Such a case is frequently the boast of the attendant, while he is loath to mention the deaths that have followed in other cases. The ratio of deaths by medical treatment and by timely operation ought to convince any fair-minded one which is the better procedure—a high death record with medical treatment or a low death record by timely operation. Timely operation does not mean at the time of a high grade peritonitis, a rapid pulse and anxious countenance. These cases die without operation, and seldom live with one. This is not the fault of the operation but rather that the infection is in advance of the operation. It may be asked why operate in this class of cases, yet it seems unjust not to give a patient a possible chance of recovery. Speaking of a high death record from medical treatment reminds me of a conversation held with a conscientious and intelligent physician of this state, a short time ago, who deprecated operating for appendicitis, and said that three or four deaths had occurred in his vicinity after operation within the past year. Inquiry revealed the fact that these cases were of the degree of intensity that I have just mentioned. I further learned from him that he had kept record of forty-eight cases that had come under his care for the last twenty years, which he had treated medically. How many died, doctor? Answer—Eight. What became of the other forty? I do not know, with the exceptions of a few, and these kept well; the rest I am uncertain about. So that it is fair to presume that some of the rest had recurrences and that others died. This candid statement compares favorably with other statistics as to the percentage of deaths that follow in the wake of medical treatment of appendicitis, while the results of a competent and experienced operator should not be more than three per cent. mortality, when the operation is done upon an appendix with the infection confined within its environments. Many operators make better reports than this.

The clinical picture of a case of appendicitis will vary as does the clinical pictures of other diseases. A persistent abdominal pain of any kind should always receive most respectful attention, the location of which is to be determined by palpation, for the patient's description is often misleading, referring it anywhere in the abdomen. Pain caused by inflammation of the appendix can be mapped out somewhere in the right iliac fossa, either above or below the imaginary line drawn from the umbilicus to the anterior spinous process, usually below, sometimes to the left of the median line. as the tip end of the appendix may become attached there. The tenderness elicited by pressure accompanied with right abdominal rigidity is very pathognomonic of the disease. Vomiting, constipation and diarrhea are variable symptoms. The character of the temperature and the pulse are unreliable as to the true condition that exists. A high temperature and a rapid pulse may occur with an abrasion of the mucosa. A low temperature is suspicious of gravity. An anxious facial expression is also indicative of gravity. There should be no mistaking appendicitis if pain, tenderness and rigidity exists in the right iliac fossa. Its gravity will be a matter of conjecture and the longer its existence the more grave.

Regarding, as I do, appendicitis as a surgical disease, I can but recommend one course to pursue, namely, to operate. An infected appendix is better out than in, for we never know how far the infection may spread. The value of medical treatment is questionable, for many cases get well without any treatment. Opium has so often masked symptoms and stunted peristaltic action that it has carried many a victim comfortably to the other shore. Cathartics are valuable in removing the contents of the intestines, with such toxins as they may contain, and better prepares the patient for the operation, but they do not remove the infection. The infection may or may not be confined by phagocytosis. Our diagnostic power has not reached that stage that it can tell us at the onset which case will get well or die. Statistics tell us that the non-operative treatment of appendicitis has a death record of about one in five or six, while timely operative treatment has a very low mortality record. I can only remember of one death where I did a timely operation and that was in my early career of operations for appendicitis. My deaths in connection with the operation have occurred in hope-forlorn cases. I fully agree with M. DIEULAFOY, in his address before the French Academy of Medicine, that "A death from appendicular inflammation ought never to occur."

METHOD OF OPERATION.

The operative technique of appendicitis has been so described by such men as FOWLER, MCBURNEY, BECK, MORRIS, DEAVER and others that it seems superfluous for me to do so at this time, yet every operator differs from another that some of his work may merit special attention. The technique that I have adopted for the past two years, is with possible exceptions in certain cases, as follows: Whenever urgency is not demanded the patient is put to bed for at least twenty-four hours before operation. Free saline catharsis is prescribed the night before and an enema in the morning. The body should have a thorough bath, followed by the application of a green soap poultice over the right iliac region. Just before operating the parts should be scrubbed with warm water; then apply with the hands a moistened paste of chloride of lime four parts and bicarbonate of soda one part, keeping it on for a minute or more when it is to be wiped off with moist gauze. The operator's and assistants' hands should be treated in the same way with the paste. The evanescent chlorine makes an admirable antiseptic. Great care should be taken to cover up all but the site of operation with dry aseptic towels, renewed from time to time, when becoming soiled, with new towels. Avoid the use of all unnecessary moisture before and during the operation. After experimenting with the various suggested points of opening the abdominal wall, I prefer the longitudinal incision through the outer belly of the right rectus, for the reason that union is more firm, with less liability to ventral hernia and it gives better access to the parts. The length of incision will depend upon whether the appendix is suppurating or not. Usually it is made one inch and a quarter upward. The shorter the incision the better, both as to recovery and firm union. Having made the incision through the integument and fat, the upper sheath is seized with forceps and divided, when the muscle fibres are separated with the point of a forceps and the fingers, thereby preventing hemorrhage and affording an opportunity to push aside the celiotomy veins. (KELLY.) The next step is the seizure of the lower sheath of the rectus and its division, when the peritoneum is seized and nicked so as to permit the introduction of one of the index fingers to make necessary exploration. Both index fingers are then introduced with the palmar surfaces toward each other and the colon fished for, as it were, drawing it through the opening, when by following the white longitudinal band the appendix is found and liberated and the meso-appendix tied in sections if necessary. I then introduce a purse string suture of catgut just above the appendiculo-cecal junction, and amputate the appendix with the thermo-cautery as near the suture as necessary, after which the stump is inverted and the suture tied, practically burying it with a large approximation of serous surface. The cautery destroys all possibility of sepsis. No drainage is used except when there is considerable oozing or there is a suppurating area. Drainage consists of gauze covered with rubber tissue. Always dust the serous surfaces manipulated with aristol to prevent adhesions. If pus is present always protect non-infected parts with aseptic gauze strips before attempting to mop it up. The abdominal wound is closed *en masse* with interrupted silk-worm-gut sutures. If a large walled off abscess exists, the opening should be made at its most prominent point, disturbing as little as possible the adhesions and exudate, for almost in all instances the appendix is entirely sloughed off and free in the abscess cavity. In all cases in which pus is present search for adjacent pockets and wipe them out. It is difficult to lay down any definite rule how to proceed in all cases. Each case will be a law unto itself which can be met as should be by an experienced surgeon. Tyros in surgery should not do these operations.

Suppurative peritonitis in connection with appendicitis presents a gloomy outlook, yet desperate cases have been reported as having gotten well, and there is no reason why we should not make the attempt. My experience is limited to one recovery in this class of cases. It is to be hoped that as our experience increases we will be better able to save more of these forlorn patients.

The following is a report of the *thirty-six cases* that I operated upon at Harper Hospital from January 28, 1898, to January 1, 1899, though I shall consume time to report in detail only those that died following the operation, with deductions thereon:

Case I.—S. R., male, aged fourteen years, was admitted to Harper Hospital January 29 at 8 P. M., and operated upon at 11 P. M. There was a history of active inflammation for ten days. On admission patient's temperature was 102.5°, pulse 130 and feeble. His abdomen was greatly distended with gas. He was restless, his face wore an anxious expression, and his body presented a cyanotic hue. There was no history of previous attacks. Prognosis—death, with little hope of benefit from an operation.

Operation.—On opening the peritoneum, pus spurted in quantity. The appendix was gangrenous with two perforations and contained two fecal concretions. The pelvic cavity was filled with pus, and the small intestines were matted together for several feet by exudate. The treatment consisted in removing the pus by copious irrigation with normal salt mixture, and withdrawal of intestines and wiping off as much of the exudate as possible with gauze. Aristol was used freely. Large sized gauze drain was employed. The after treatment consisted in hypodermics of strychnia and digitalis, with copious rectal enemas of salt solution. There was apparent benefit for twelve hours when he became restles and gradually sank, dying at 11:45 P. M. the next day.

Case II.—B. Z. S., medical student, aged twenty-seven years, was admitted January 29 in the evening, with a history of attacks at intervals dating back five years. Present attack of three days' duration, with symptoms of constipation, nausea, pain in right iliac region with marked abdominal resistance of that area. Temperature 101°, pulse 98.

Operation.—This occurred on the morning of the 30th. Quite a bunch of omentum, infected, was found to be adherent over the cecum. On carefully separating it, a considerable sized abscess cavity was revealed. The appendix was perforated and firmly bound down with adhesions. It was removed by cautery, stump inverted and tied with catgut purse string suture. Gauze drainage. Patient did well for five days, when the temperature rose to 102° and pulse to 110. A marked swelling was felt in the abdoman about the upper point of incision, and the wound was reopened and the swelling, which was in omentum, punctured with dressing forceps, letting out several drams of pus. Fecal fistula supervened, and discharged freely for several days, when it gradually closed with only occasional leakage. On May 10 I closed it by liberation of the cecum from its parietal attachment and closed the opening with a purse string suture.

Case III.—W. B. A., male, aged twenty-eight years, was admitted March 20, with a temperature of 102.8°, pulse 88. No previous attacks. Abdominal palpation over right iliac fossa elicited pain, rigidity and circumscribed swelling.

Operation.—I encountered a small pus cavity with surrounding exudate. The appendix was perforated. Gauze drainage. Patient's recovery was uneventful. He was discharged April 10.

Case IV.—F. H., male, aged nine years, was admitted and operated upon March 27. There was a history of slight previous attack. Present attack of two days' duration. Temperature at time of operation 99°, pulse 100. The appendix was engorged and slightly gangrenous near its tip. The wound was closed without drainage. Patient discharged April 10.

Case V.—Mrs. W. B., aged nineteen years, was operated upon April 11. She gave a history of severe previous attack from which she never fully recovered. The last attack occurred ten days ago. Considerable pain at McBurney's point on pressure. Temperature 99°, pulse 100.

Operation.—About a teaspoonful of pus was wiped out. There were numerous adhesions, with two constrictions of the appendix and evidence of old perforation. The appendix was removed with cautery and small sized gauze drainage used on account of some oozing. This, however, was removed the next day. Patient experienced an uninterrupted recovery, leaving the hospital April 26.

Case VI.—C. C., aged twenty-nine years, was admitted to hospital April 27. Several previous attacks. Present attack commenced about a week previous to admission. Condition at time of operation: general tympanites, right abdominal tenderness, rigidity, temperature 94.4°, pulse 132 and very feeble. Prognosis —unfavorable.

Operation.—This was performed at 10 P. M. and revealed diffuse peritoneal suppuration and gangrene of entire appendix and part of cecum. Fecal concretion was also found. The sero-purulent accumulation was wiped out and large gauze drainage introduced. Patient never rallied and died April 25, at 1:15 P. M.

Case VII.—E. B. K., aged ten years, was admitted to the hospital May 11 with a history of sudden attack of pain and nausea four days previous. Patient had an attack three months ago from which she never fully recovered. Her present condition was characterized by marked tenderness and abdominal rigidity, with great distention of abdomen. Temperature 101°, pulse 132 and thready. She wore an anxious expression and exhibited a cyanotic tendency. Prognosis—hopeless.

Operation.—On opening the abdomen a large quantity of foul sero-purulent matter escaped. There was an ecchymotic condition of the intestines, which were covered with exudate. The appendix was perforated and gangrenous. I washed out the abdominal cavity with normal salt solution, removed as much of the exudate as possible and dusted the cavity with aristol. Her condition seemed better for a few hours, after which she began to fail and died twenty hours following the operation.

Case VIII.—J. O. C., aged twenty-four years, gave a history of several slight attacks dating back three years. I operated May 15, making an abdominal incision one and a quarter inches long. The appendix was thickened and constricted and erosion of the mucosa existed. Uninterrupted recovery in ten days.

Case IX.—A. S., aged twenty-eight years, gave a history of recurrent attacks. Operation July 8. Patient left hospital July 19, cured.

Case X.—P. F., aged thirty-six years, gave a history of previous attacks. Present attack July 11, at 10 P. M., with severe pain and nausea. He was admitted to hospital July 12, and operated upon at 4 P. M., at which time his temperature was 100° and pulse 100. Introducing my finger through the incision an area of exudate the size of a walnut was felt surrounding the appendix. First protecting with gauze, the adhesions were carefully separated and about a teaspoonful of pus wiped up. There was slight perforation of the appendix. Gauze drainage was employed for twenty-four hours, when opening was closed with suture previously introduced. Patient made an uneventful recovery, leaving the hospital July 19.

Case XI.—J. S. B., aged twenty-five years, entered hospital with a history of an attack existing two days. Temperature 100° and pulse 84, July 15, time of operation. I found a small abscess near tip of appendix, with two fecal concretions. Patient sat up on the ninth day.

Case XII.—J. H., male, aged thirty-three years, was admitted for operation July 19. He gave a history of gastric disturbance and intestinal indigestion for several months. No pronounced attack until a month previous to operation, which lasted about three days, although he had frequently observed pain over appendicular region. The appendix contained mucus and pus and fecal concretion. Union by first intention. Patient did well for two weeks following operation, when a slight lymphangitis of right leg set in lasting about two weeks.

Case XIII.—H. S., female, aged seven years, was admitted to hospital August 12, with the following history: During the evening of August 10 she was attacked with vomiting, diarrhea and abdominal pain. Her mother cared for her with home remedies. She seemed better the next day and was up and about the house. During the night of August 11 she grew worse but the family physician was not called until August 12, at 10 A. M. He recognized at once the gravity of the case and called me to see her, which I did at 11 A. M. She was gotten to the hospital as soon as possible and operated upon at 3 P. M. Her condition at the time of operation was as follows: Temperature 103° and pulse 130; abdomen tense with the usual tenderness and rigidity; restless, with marked anxious expression and capillary congestion indicative of grave septic infection. The abdominal contents were liberally bathed with a foul smelling sero-purulent fluid. The appendix was gangrenous with perforations from which had escaped two fecal concretions. Great care was exercised in cleaning out the abdominal cavity, and there was manifest improvement for a few hours, but unfortunately the micro-organisms were in advance of our surgical efforts and she died twenty-two hours after operation.

Case XIV.—Mr. F. M. H., aged thirty-one years. Operation August 12. Typical appendicular symptoms set in six days previous and were treated expectantly. At the time of operation patient's temperature was 100.2° and pulse only 80. There was an area of tumefaction below the imaginary line. The appendix had entirely sloughed off at its junction with the cecum. Several ounces of pus were removed. He made a good recovery (although there was a fecal fistula of five days duration) leaving hospital on the twenty-second day.

Case XV.—F. C., male aged thirty-six years, was operated upon August 18, at which time his temperature was 102° and pulse 100. The present attack commenced August 14, with the usual symptoms. He has had attacks every summer for several years, attended with a persistent diarrhea. The appendix was gangrenous and had sloughed off, lying in a circumscribed abscess. Two fecal concretions were found. The cecum, about stump, was sphacelated, making the closure of the opening uncertain. Fecal fistula followed but closed in three weeks. Discharged September 14.

Case XVI.—Mr. A. G., aged twenty-five years, gave a history of several attacks at intervals of about three months. His appendix was very long, thickened, strictured and bound down by extensive adhesions. No drainage used. Recovery uneventful. Discharged on the twelfth day.

Case XVII.—Mrs. C., aged fifty-five years, was admitted to hospital September 2, with a temperature of 103° and a pulse of 110. On August 31, patient was attacked with severe diarrhea and right iliac pain. She did not consult her physician until next day, when she went to his office. Not improving she sent for her physician, who diagnosed appendicitis and sent her to the hospital for operation. Abdominal incision revealed a gangrenous appendix lying in an abscess of several ounces of pus. It contained the largest fecal concretion that I have ever seen—hard and irregular in shape. She denies ever having had previous attacks, yet admits having had intestinal dyspepsia of long standing. As the cecum was much necrosed, closure of opening was unsatisfactory and a large fecal fistula followed, which I was compelled to close November 15. She made a rapid recovery afterward and left the hospital December 1.

Case XVIII.—Mr. S. R. C., aged twenty-eight years, was operated upon September 1, having at the time a temperature of 99° and a pulse of 110. He gave a history of several attacks of appendicitis. The present attack commenced about two days ago. The appendix was thickened, contained pus, and two fecal concretions. Patient made an untoward recovery and left the hospital on the thirteenth day.

Case XIX.—R. D., colored, male, aged twenty-five years, gave the following history: Indigestion for a considerable time; pain started in the region of McBurney's point, radiating down to the right knee, and the attacks would occur at varying intervals. Operation September 3. The appendix was very much thickened and contained two large fecal concretions. Patient remained in bed twelve days and made a perfect recovery.

Case XX.—B. B., female, aged ten years, was operated upon September 7. Patient had had several previous attacks, the last one commencing four days ago. All the characteristic symptoms of appendicitis were present. Temperature 102° and pulse 120. The appendix was found surrounded by exudate, and several teaspoonfuls of pus were removed. A perforation was discovered near the tip. A fecal discharge was noticed on the third day, which ceased in four days. The patient left the hospital on the fifteenth day.

Case XXI.—N. G., male, aged thirty-six years, was admitted to the hospital with a temperature of 99° and a pulse of 70. Patient had a number of previous slight attacks. The appendix revealed two fecal concretions. It was also constricted at its base. Uneventful recovery. Patient went home on the fifteenth day.

Case XXII.—J. A. R., male, aged twenty-five years, gave a history of several previous attacks. The operation, on September 8, revealed a long thickened appendix bound down with adhesions, which was removed. It contained pus and was constricted at several points. Recovery uneventful, patient leaving the hospital on the fourteenth day.

Case XXIII.—D. A. G., male, aged twenty-three years, gave a history of having had three attacks. At the time of operation the temperature was 101.6°, pulse 78. The appendix was congested with a small abscess at its apex. Patient left the hospital in two weeks, well. No drainage.

Case XXIV.—James G. M., aged thirty years, was operated upon September 15, at which time he had a temperature of 100°, and a pulse of 94. Patient has had several attacks. The appendix was small and congested, and covered with exudate of lymph. He made a good recovery and was discharged September 28. No drainage.

Case XXV.—Mary P., aged thirteen years was operated upon September 17, in the evening, at which time her temperature was 101.4°, pulse 124. The attack commenced one week previous. The appendix was perforated and surrounded with pus. Fecal matter was discharged for six days, when the fistula closed. Patient left the hospital on the twenty-first day with the wound healed.

Case XXVI.—J. A. A., aged ten years, was operated upon October 4. The onset of attack began six days previous with condition on day of operation as follows: Densely tympanitic, right abdominal rigidity and tenderness, expression anxious and cyanotic, appendix ruptured and nearly destroyed from gangrene. Large quantities of foul sero-purulent fluid were removed from the abdominal cavity. Patient never rallied from operation and died the next day at 10 A. M.

Case XXVII.—C. L., aged twenty-six years, had been sick only twenty-four hours before entering the hospital. Operation performed October 5. The appendix was highly inflamed and contained pus and a fecal concretion. Patient made an uninterrupted recovery and left the hospital October 14.

Case XXVIII.—J. J. S., male, aged twenty-five years, was brought to the hospital November 9, the attack having commenced only four hours previous. The appendix was found to be highly inflamed, and quite a quantity of serum was removed from the abdominal cavity. Fecal concretions were found in the appendix. Gauze drainage left in forty-eight hours. The wound healed by granulation and patient was discharged from the hospital November 30.

Case XXIX.—E. H. B., aged forty years, was operated upon November 9, giving a history of onset of present attack two days previous. He had had several attacks extending over a period of two or three years. At the time of operation patient's temperature was 101° and pulse 110. The appendix, which was perforated, was removed with difficulty on account of numerous adhesions. Two or more ounces of pus were wiped out and the opening in the cecum not very satisfactorily closed. A fecal fistula existed for several days, when the wound healed by granulation and he left the hospital December 5.

Case XXX.—M. T., aged fifty-three years, gave a history of three previous attacks, the last of which occurred in September and from which he never fully recovered. At the time of operation patient's temperature was 100° and pulse 90. The appendix was constricted and contained two fecal concretions. No drainage used. Recovery uneventful and patient was discharged from the hospital December 5, on the ninth day following the operation.

Case XXXI.—E. W., aged thirty years, had several attacks during the last ten years. Operation November 30, at which time his temperature was 100° and pulse 98. The appendix was thickened and contained pus. Patient made a satisfactory recovery and left the hospital December 12.

Case XXXII.—F. H., male, aged thirty-five years, has had chronic appendicitis since early part of summer, with several exacerbations. Palpation of appendix just before operation indicated thickness and sensitiveness. On opening the appendix two erosions were observed. Recovery uneventful, patient leaving the hospital on the ninth day.

Case XXXIII.—P. M., aged twenty years, entered the hospital December 7, giving a history of sickness of two days' duration and having a temperature of 102° and a pulse of 110. On opening the abdomen a considerable quantity of serum was wiped out. The appendix was perforated and encapsulated in exudate. Recovery uneventful.

Case XXXIV.—G. F., male, aged sixteen years, entered the hospital September 30, with a history dating back a week. The symptoms at time of operation were marked tympanites and tenderness and rigidity of right abdominal wall. Temperature 101.5°, pulse 130. Diffuse peritonitis was evident after opening the peritoneum. Patient died four hours following the operation.

Case XXXV.—Mrs. H., aged thirty-seven years, gave a history of several previous attacks. The appendix was found to be thickened, constricted and contained pus. She made an excellent recovery. Operation was performed December 9.

Case XXXVI.—J. M., aged twenty years, entered the hospital December 31. Temperature 102°, pulse 120 at time of operation. Patient gave a history of attack dating back three days. A small tumefaction in right iliac fossa could be felt on manipulation. The appendix was perforated at two points and contained two fecal concretions, and the whole organ was encapsulated in exudate. About two teaspoonfuls of pus were removed. Drainage for forty-eight hours. There has been no rise of temperature since the operation. He has been walking about his room and hospital for the past week.

Only one deduction can be drawn from the recital of these tragedies, and that is that early operation should have saved them all.

I have arrived at the following conclusions regarding appendicitis as the result of my experience:

(1) Appendicitis is an infective disease.
(2) It varies in intensity.
(3) It can best be relieved by removing the infection atrium.
(4) An inflamed appendix should never cause death.
(5) The best method of relief is early diagnosis and timely operative interference.

Note.—The photographs and microphotographs were made for me by Doctor P. M. Hickey, Lecturer on Pathology in the Detroit College of Medicine.

TREATMENT OF CHRONIC DISEASES OF THE HEART ASSOCIATED WITH TACHYCARDIA.*

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A series of cases with rapid heart, though differing materially in their varied causes of production, have come under my observation in the past two years, and having grouped them under their separate heads I now present them, hoping they will prove as interesting to you as they have been instructive to me. Review with me the cases and I will later speak of their treatment.

Case I.—Mrs. L., a widow aged forty-two years, consulted me at my clinic at Harper Hospital December, 1897. Her pulse ran at 215 beats per minute; it was steady and did not show the least dicrotism. She was slightly dropsical in her lower extremities. This was noticed more at the close of the day after she had been on her feet and had done a hard day's work. It never prevented her from performing her regular duties of life. She was unable to give up work, she said, and was not inconvenienced to any degree by her rapid heart's action.

Medicines failed to control the heart or keep it below 190 per minute. A murmur was later discovered, but she drifted away from the clinic and was lost track of.

Case II.—In September I was called as a consultant to a young man aged twenty-four years, a soldier in the Volunteer Infantry who had been before Santiago and had suffered from yellow fever and malaria. He had come home on a furlough and was very thin and anemic, a condition following the attacks of yellow fever and malaria, as seen among our soldiers, which has been so severe as to destroy many red blood corpuscles and produce a condition of chlorosis that will take months to overcome.

He had been suffering for a week from an acute attack of tachycardia. When he returned home, though thin and wasted from disease and poor food, he thought himself to be as strong as ever and went for a day's shooting. On his return he ran up stairs and at once felt a sharp pain over the heart and in the left side that caused him to fall to the floor.

The physician who was first called found him suffering from a rapid heart, with a pulse rate of 180 per minute. In the course of a day or two he was able to sit erect and dress himself, but spent most of the day on the lounge as his heart's action prevented any special exertion.

When I examined him I found the rapid heart's action was caused by a pleuritic effusion on his left side that raised and dislocated the heart, the action of which, as soon as aspiration was performed, became normal, and he made a perfect and rapid recovery.

Case III.—Entered Harper Hospital October, 1896. He was forty-four years of age, a Frenchman and a commercial traveler. He had had frequent attacks of tachycardia, brought on by the excessive use of tobacco—principally cigarettes—which he smoked immoderately.

When examined it was found that his heart was larger than normal, the apex beat lay below and in a line with the nipple, the heart's action was very rapid, pulse hard and regular, beating at 168 per minute. In his previous attacks the heart had always been under 170 per minute.

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* Read before the Detroit Academy of Medicine.

He noticed that any exertion brought on attacks of fainting and breathlessness which would last some hours and leave him exhausted and unfit for business so that he was obliged to seek rest in a hospital. He had no pain. Often his finger nails and lips were cyanosed to a considerable degree. His face showed enlarged capillaries, but no dropsical effusions were discoverable. He suffered from insomnia and was unable to lie down, being obliged to be propped up with a head rest or to sit in a partly reclining chair. He was restless and very wide-awake, both by day and night. He was easily excited (Frenchmanlike) and yet perfectly rational. His heart at no time showed an irregularity in its force or volume. No murmurs were discoverable on stethoscopic examination. His pulse was hard and rigid, and showed marked tendency to endarteritis.

Case IV.—Aged forty-three years. He had no special business and had begun to drink freely of whisky. At the time he consulted me he consumed three pints of whisky *per diem.* He had been drinking to excess for three years. He claimed that whisky could not intoxicate him.

On physical examination his heart showed no organic lesion. At times the pulse would be intermittent, always rapid, never lower than 160 and more often reaching 190 per minute.

He was very anemic and the extremities were cold and bloodless. His fingers were always cold and clammy. His liver was much contracted and bowels constipated. His appetite was good. He ate three meals a day but a little food always satisfied him, and strange to say assimilation of food was fair. His mind seemed always clear. He had one attack of delirium tremens, and this came on after a long debauch.

Case V.—A man aged sixty years, of excessively sedentary habits. He had never built himself up physically, even from boyhood.

His previous history had been something as follows: Two years ago he had an attack of angina, which was followed by numbness of the left side. His foot dragged for several months, and the nervous power in the left hand was greatly diminished. He had frequent attacks of acute dyspepsia, and choking attacks of angina, followed with breathlessness, often lasting several hours and coming on without any special exertion, so that if he were walking he was obliged to seek a place where he could sit down and wait until the paroxysm passed. During these attacks his finger nails and lips became cyanosed. His appetite was always too good.

Upon physical examination I found the area of heart dullness enlarged, the apex of the heart was not appreciable when palpitation was made, and the first sound of the heart only faintly heard—the first and second sounds were weak, distant and rapid. Pulse beating at 90 to 108, somewhat irregular in volume. The left side of the liver was enlarged and elicited pain on pressure. The abdomen was very fat, relaxed, and over the whole was noticed the remarkable phenomenon of the presence of air in the subcutaneous tissues—a true emphysema—just where the leakage was I never was quite sure. His muscles were soft and relaxed, his skin pale and his strength far below par. His bowels were constipated and he suffered from hemorrhoids. He also suffered from intestinal dyspepsia. He did not smoke or use stimulants.

Case VI.—Miss X., aged twenty-nine years. When a girl of seven years of age she suffered from chorea for three months. When at play as a child she was always conscious of her heart palpitating violently on the slightest exertion. When fourteen years of age, while bathing in the sea, she came near drowning, after which she suffered from a violent attack of palpitation which lasted twenty-four hours and left her in a very much exhausted state that took weeks to overcome. At the age of fifteen she began menstruation and suffered from dysmenorrhea, which was followed by severe nervous disorders. When sixteen years of age, after a long attack of tachycardia, it was first discovered that her heart was very much enlarged. From sixteen up to twenty she took care not to exhaust herself in any way, for when she danced or skated the exercise proved too violent and always brought on attacks of rapid heart action. When twenty-two years of age, while on a pleasure trip with friends, she was awakened by an alarm of fire in the building adjoining her hotel. Seizing her clothing and valuables she hurried to the street, and as the fire was brought under control she walked back to her room on the fourth story. In fifteen minutes she was prostrated, suffering from the most violent attack of tachycardia she had ever had. This attack lasted two weeks, and it was more than two years before she completely recovered from it. When twenty-three years of age she had a run of typhoid fever that lasted seven weeks. She suffered from hemorrhages and was at the point of death from exhaustion, but she made a good recovery.

For the next two years she remained in good health, and probably would have continued so had she not learned to ride a bicycle. Slowly but surely the strain of pushing her wheel against the wind became more and more apparent. She suffered again from rapid heart and exhaustion, which was increased by any physical exertion. At no time could it be said that mental shocks produced these attacks. When twenty-two years of age she was on a cable car in Chicago that ran over a child, and when twenty-six years of age she lost her father, but no attacks of tachycardia followed these calamities; they always came on from some physical disability that was brought about by overexertion.

The attacks of palpitation rarely lasted over three or four hours, and usually began after some slight physical exertion, such as running up stairs, walking against the wind, et cetera.

She was anemic, weak and relaxed, which condition probably had grown upon her from her sedentary habits. She was subject to gastric disturbances. Tea and coffee not only cause derangement of her digestion, but reflexly keep up and often aggravate the attacks of palpitation.

On physical examination I found a markedly dilated heart. The area of the heart sounds were heard over a wide space and far removed from the normal areas. The apex of the heart was most clearly heard over the epigastric region, two inches above the umbilicus. An endocardial friction sound was plainly heard.

* * *

Where the fundamental cause that produces the heart's rapid action is obscure and the attacks are frequent, with but short intervals between them, they should be considered as the earlier symptoms of Graves' disease.

The longer the continuance of the attacks of tachycardia, the more grave should be the prognosis. Muscular exhaustion soon follows, with dropsical effusion and anginal attacks resulting in heart failure.

The action of the heart and the rapidity of the pulse are under the immediate control of the nervous system. The centres for the cardiac and vasomotor reflexes lie in the medulla and the ganglia, and nerves in the heart itself receive their motive force through the vagus from the central nervous system. It is not necessary for me to discuss the physiological experiments in proof of this, which are considered as facts today. NOTHNAGLE and BAMBERGER consider the increased rapidity of the heart due to a stimulation of the sympathetic nerves and the cardiac ganglia, or to a paresis of the vagus from some degenerative disease that produces an irritation in the medulla. When such a condition holds it is easy to understand that the transmission of nervous energy with the interference with the inhibitory nerve centres affect the central nervous ganglia, and so the peripheral filaments of the vagus, or sympathetic nerves, induce a rapid heart's action that is persistent and almost beyond control of our therapeutic measures.

It is a curious clinical phenomenon that the interval between the attacks of tachycardia may be months or even years, so that the irritation affecting the inhibitory nerves is due to some transitory cause, in such cases, and not always to pathological conditions.

All the cases I have enumerated have one symptom in common, namely, rapid heart. They form a group of cases that are most commonly seen in practice, and may all be classed as chronic affections. In two cases the tachycardia was produced by poisons, nicotine and alcohol. One was due to organic disease of the heart and two to dilatation of the heart.

TREATMENT.

When rapid heart action with high arterial tension is brought about by the excessive use of alcoholic stimulants or by the use of tobacco, the treatment is easier than in the diseases dependent upon valvular disease or dilatation.

First, remove, as far as it is expedient, the cause that produces the rapidity. *Rest* should be considered foremost in the treatment of such cases. Just when to advise absolute rest is sometimes a hard question to decide. Some patients suffering from rapid heart are unable to lie down, and others cannot bear to be housed at all, let alone being confined to bed. In such cases, if they have dilated or weak hearts, the confinement may interfere with the compensation going on and a rapid hypertrophy may follow, which, of course, destroys the chances of compensatory changes.

But *rest* in the line of cases under discussion at present is always necessary, and it should be insisted upon.

In cutting off stimulants, such as alcohol and nicotine, others must be supplied, and in my hands nothing acts better than the nitrate of strychnine in doses of from one-fortieth to one-twentieth of a grain, combined with one-fiftieth of a grain of digitaline, or the alkaloid strophanthin, given hypodermatically every four hours.

When the nerves are over-stimulated by alcohol or tobacco, insomnia is always persistent and distressing. I combat this with sulfonal in large doses—twenty grains—until sleep is induced, then reduce the dose to ten or seven grains and keep the patient in a drowsy state, thus inducing mental as well as physical rest.

This forced rest should be continued until the heart's action is slowed and the nervous centres are rested. Usually a week is sufficient to bring about this condition, and then the night's rest should be assured by at least one dose of sulfonal.

The diet should be fluid during the time this lethargic state is induced, and given every two or three hours according to the needs of the patient. Often it is necessary to catheterize the patient every six hours for the first week because of the dulling of the spinal nerves.

When we are called to an acute attack of tachycardia that is brought about by some other cause than the foregoing, it is well to make up our mind as to whether the symptom is due to palpitation or to a true attack of tachycardia. The severer symptoms are found in the latter, and one especially is to be noted, namely, cyanosis of the finger nails and lips.

Whatever our treatment has been in chronic diseases of the heart, I confess for one, that at best it is unsatisfactory. We try digitalis *ad nauseam;* we use strychnine, bromides, and the carminatives and tonics until the supply is nearly exhausted. We confess that we can do no more and our patients have, too frequently, come to this conclusion before we have.

I want to offer a substitute for the old time drug treatment, that has been working well in my hands for a number of months in the promoting of compensation of the heart in cases wherein dilatation is present in a marked degree.

The method was introduced by DOCTORS SCHOTT, of Nauheim, Germany, whereby with a course of natural baths and a system of exercise patients can be treated at home almost as easily as in Nauheim and with excellent results, as I have demonstrated by actual experience.

The waters at Nauheim are remarkably rich in free carbonic acid gas as well as in mineral constituents, chief of which are chloride of sodium, chloride of calcium and carbonate of iron. At first the bath should contain about one per cent. of the chloride of sodium and one to one thousand of calcium chloride, and should be free from carbon dioxide. The first few baths should last from six to eight minutes and should register about 95° Fahrenheit. Later, baths containing free carbon dioxide and about three per cent. of sodium chloride and three to one thousand of calcium chloride may be taken. These baths can be artificially prepared as follows: Begin with one pound of common salt and one and one-half ounces of chloride of calcium to every ten gallons of water used. A bath should be given every other day at first, then every day for four or five days, when a day's rest should be taken. The baths should then be resumed for a period of two or three weeks. The baths should be gradually increased in strength until three pounds of salt and four and one-half ounces of chloride of calcium for every ten gallons of water is reached. The temperature of each bath should be gradually reduced until the temperature reaches 85°, and the bath prolonged until their duration is twenty minutes.. After each bath the patient is advised to rest in the recumbent position for at least an hour.

For the artificial preparation of the effervescing baths, which should follow the plain baths, bicarbonate of soda, two ounces, and hydrochloric acid three ounces, to every ten gallons of water should be employed. The bicarbonate of soda should be dissolved in the salt bath of full strength and the acid, previously diluted, should be gradually added and well mixed before being used. The soda and acid should be gradually increased until eight ounces of sodium bicarbonate and twelve ounces of hydrochloric acid for every ten gallons of water are used.

The fumes of the acid are often irritating to the patient, and to obviate this a German chemist has prepared tablets in which the acid is incorporated, which he calls "Sandow's Tablets." With these tablets, together with soda, effervescing baths can be easily and safely prepared. These effervescing baths are usually begun after a two weeks' treatment with the salt baths.

The effects produced by the baths on the circulation is to diminish the frequency of the pulse, to increase its volume and force, and to decrease the area of cardiac dullness.

A system of exercise is another therapeutic measure introduced at Nauheim by DOCTORS SCHOTT, wherein simple movements of each limb and of the trunk are made against slight resistance so that all the voluntary muscles of the body are brought into action. The movements are made slowly and systematically and regularly with a short interval of rest between each. Each succeeding movement is resisted by a trained attendant, so as to slightly oppose without arresting it. These movements consist of slowly conducted flexions, extensions, abductions and rotations of the arms, trunk and lower extremities. Each movement is made slowly with a uniform effort on the part of the patient, who is to breathe regularly, deeply and slowly. The exercise should not be carried so far that the patient perspires freely or has even a slight palpitation of the heart; the attendant should here advise rest, so as to prevent either of these conditions. As the course proceeds, the energy of the movements on the part of the patient are increased, and a greater resistance is put upon the movements by the attendant.

DOCTOR SCHOTT's theory is that as a result of each bath or series of exercises the heart is stimulated by a reflex process, so that its contractions become more complete and forcible, and as a result of this stimulation the heart muscle undergoes hypertrophy and becomes competent to do its work.

Without doubt the baths and exercises give rise to a general dilation of the capillaries in the skin and muscles, so that the resistance to the outward flow of blood is lessened and the left ventricle is able to complete its systole.

There is nothing violent in this exercise; it is gentle and moderate, and does not drive the blood with great force to the right ventricle and cause dyspnea (such as did the Keating method, which was introduced into this city a year ago and doubtless did a great deal of harm).

This treatment is especially adapted in the many cases of functional and neurotic diseases of the heart; in valvular disease wherein compensation has not taken place; in cases with pericardial effusion it acts well; also when there is cardiac dilatation with loss of muscular tone.

BROADBENT advises it in cases of mitral disease, more especially in mitral stenosis, when compensation is just maintained with difficulty, and when the degree of stenosis is such that increased contractile power of the right ventricle induced by digitalis would be harmful.

In cases five and six I have tried it with gratifying results. Both patients have improved under its use; the pulse rate has fallen, the breathlessness has been lessened and their general tone has improved, as is shown by a better tension of the pulse and of the stronger and slower beat of the heart. Compensation is progressing steadily in both cases, and the prognosis is much better than when I was first consulted.

SKULL AND BRAIN TRAUMATISMS.*

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More than two thousand years ago Hippocrates said, "There is no injury of the head so trivial as to be despised, nor so severe as to be despaired of." We boast, in this latter part of the nineteenth century, of the advancements that have been made in the science and art of medicine and surgery, and every few days some aspirant for professional renown advances a "new idea," a new operation, or a new method of performing an old one, but a careful search of the literature of the subject usually reveals the fact that our ancient brethren had some conception of the same picture, or that somebody has performed the same operation, with perhaps a little different technique.

In the matter of instruments we are a long way ahead of the ancients, for their armamentarium was limited. Perhaps they were better surgeons on that account. Certain it is that in brain surgery, even in the days of Hippocrates, a degree of knowledge and skill and boldness of procedure was exhibited which is a surprise to the student of the present day, and puts to the blush much of our boasted advancement in operative surgery. Surgeons in those days trephined the skull, sometimes removing large portions of bone with gratifying results, according to their reports. They incised membranes freely and removed considerable quantities of brain, and their patients recovered; they enjoined the strictest cleanliness and used extensive and thick dressings (not to prevent sepsis, for they were not proficient in bacteriology), but to "keep out the air," to "promote healthy granulation," and healing which they accomplished without antiseptics, and with all our pretentions in this direction, one of our most prominent and leading abdominal surgeons of today has said that the surgeon who cannot render himself aseptic with soap and water should never attempt an abdominal operation.

For two thousand years the teachings of Hippocrates and of the Alexandrian and French schools were the accepted methods of practice. Indeed up to the time of Desault, Dease and John Bell, about the beginning of the present century, the aphorisms of Hippocrates were held sacred by all the universities of Europe, while the skull, the brain and its membranes were as freely and as boldly entered as are the abdomens of our unfortunate women of today, by every neophyte who had learned at the feet of his Gamaliel that the trepan was the only instrument necessary in the treatment of traumatisms of the skull.

About one hundred years ago Doctor John Bell, of Edinburgh, wrote these words: "If ever learning has retarded the progress of science it has been in our profession. Physicians devoted to scholastic learning, secluded by the false dignity which they assumed from the actual practice of our art and from all sources of true knowledge, have actually been the authors of these aphorisms and rules which guide the surgeon in his most important duties, and which hold a constant influence over the profession." He further says: "Most unfortunately for science HIPPOCRATES wrote with such truth and brevity, with so sound and discerning a spirit of observation, and recited so carefully the signs of danger in all kinds of wounds and injuries, that he has been held in continual reverence." Unfortunate for science?. It would be fortunate for science if some of our modern surgeons had inherited his reverence for "truth," his "literary brevity" and his "discerning spirit of observation." DOCTOR BELL and his colleagues, followed by ABERNETHY and others, took decided grounds against the indiscriminate use of the trephine, and a fierce war was waged for many years which resulted in greater conservatism in the treatment of these injuries by most of the surgeons of Europe, and the works of BELL, ABERNETHY and others became authoritative classics in the universities. DOCTOR BELL was unnecessarily severe in his criticisms, and, thanks to the hospital advantages and the abundant supply of clinical material in this day, our teachers are well equipped with practical experience as well as scholastic learning.

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*Read before the Grand Rapids Academy of Medicine.

This is an age of iconoclasm. We worship no ancient professional idols, and our literature is so extensive and so varied, if not so scholastic, as to stimulate original research and to bring forth original ideas, and a return to old methods which had proven effective and wise, but which the dust of centuries had obscured until brought to light by some explorer in the medical archives of the ancients. The early brain surgeons understood fairly well the technique of operating, but they knew nothing (or little at least) of cerebral localization, so while they operated boldly and skillfully, their operations were often unnecessarily extensive and severe. With our present knowledge of the functions of the various parts of the brain and the effects of traumatisms of the several regions, we are much better prepared to treat this class of injuries intelligently than were they.

I have reviewed as briefly as possible the ancient history of brain surgery, because it seems to me that those writers and teachers in this domain who recommended that in every case of depressed fracture of the skull, whether simple or compound, and in every case of compound fracture the trephine should be employed, are as far removed from the principles of scientific and humanitarian surgery as were the disciples of HIPPOCRATES two thousand years ago. Injuries of the scalp should receive some attention at our hands, for they are sometimes of a very serious nature. I have not in my own practice seen any grave results follow even extensive lesions of the scalp, although I have seen nearly the entire scalp turned off, wounds extending from ear to ear and from the superciliary ridges to the occiput. The parts usually unite readily when thorough and complete cleansing is accomplished. This is sometimes difficult, but with patience and perseverance it can be accomplished; then with as perfect apposition of the parts as possible, proper dressings and drainage if necessary, good results follow. One condition sometimes remains which it is well for the railway surgeon to remember. Cases are reported, and I have seen one, in which by the involvement of a small nerve trunk in the cicatrix, a condition simulating epilepsy is established which might be considered cerebral and involve litigation, and damages be obtained for a permanent injury. This trouble is easily relieved by incision, and division of the nerve.

GROSS says that injuries of the scalp are sometimes followed by abscess of the liver and atrophy of the testes. I can hardly imagine such results, except as the effects of pus or the involvement of nerves in the scars, and these can be prevented by free drainage and incision. Sloughing and destruction of the pericranium with death of bone may follow severe contusions, but proper drainage will almost always avert this condition, and the bone is so well nourished through the dura that it usually escapes serious impairment; in fact, the pericranium can be extensively lacerated and destroyed and the bone still retain its integrity.

Traumatisms of the skull are of more serious import, for while all surgeons agree that simple fractures of the skull are not alarming injuries, they are very frequently accompanied by lesions of the dura, blood-vessels and encephalon. The question which concerns us is how to treat them. Our dear old uncle J. ADAMS ALLEN, of blessed memory, was wont to say, "That depends upon what's the matter."

When there are no alarming symptoms present simple fractures of the skull should be treated upon general principles as any other fracture would be treated—dressed and left to unite—due attention being given to rest, diet and sanitation. If grave symptoms are present, from what do they arise? Shall we wait to ascertain whether they are the result of shock and concussion and will disappear shortly, or shall we at once proceed to trephine and learn the exact condition if possible? We are told that the temperature is a valuable diagnostic symptom, that the pulse and condition of the pupils will aid us, but they are all uncertain guides; false prophets more often than true ones, and I believe it better to wait until one is satisfied that there is injury which the use of the trephine will benefit. The wise surgeon always wants to know "what's the matter," and to act promptly, but I have seen so much harm result from hasty action, both in brain and in general surgery, that it seems to me best to "be sure you're right, then go ahead" boldly. But suppose there is depression of bone either with or without external wound? The difference between simple and compound fracture is not so great as it once was to the surgeon, and the conversion of a simple into a compound fracture is lightly regarded. Even in depressions which could not be easily raised through the wound, if there were one, I would be in no haste to use the trephine if there were not evident manifestations of cerebral disturbance. A few hours will do no harm unless symptoms appear which render interference imperative.

In a limited army experience, a service of nearly twenty years as pension examiner, and in my railway and private practice, I have examined so many cases of old depressed fractures of the skull in which but trifling or no unpleasant results remained, that I am of the opinion that slight depressions of the skull in themselves affect the brain very little.

DOCTOR EDWARDS, of the Asylum for the Insane at Kalamazoo, Michigan, informs me that of the eleven hundred and sixty patients in that institution at present but two have sustained fractures of the skull, and that during his twelve years of service in that retreat there have been but seven such cases, and that five of these had been trephined at the time of injury. I get substantially the same report from the Asylum at Pontiac, Michigan, so that it would seem that neither paralysis nor insanity commonly follow depressions of bone. If, however, the immediate symptoms were those of irritation, as of some sharp spicula of bone nagging the brain, or of such a character that the diagnosis were plain, I should apply the trephine immediately. If the compression be due to the deeply depressed bone, elevation of the fragment will relieve the symptoms. They are more commonly due, however, to injury of the blood-vessels and resultant clot, and until the coagulum is removed completely no benefit results. Hemorrhage is apt to follow the removal of the spiculæ of bone, and frequently supervenes upon the breaking down of the clot, so that after dressing the wound alarming symptoms occur, as in the case of a boy in my own practice, who was kicked just in front of and above the ear by a horse. The parietal bone was extensively comminuted and the brain was torn, bruised and protruding through a lacerated wound. The fragments of bone were removed, the injured brain scraped away, the scalp brought together and the wound dressed with compress and bandage. I had not reached my office before I was summoned in haste to see my little patient, whom I found in coma with tonic spasms on right side of body and nearly moribund. The dressings were hastily removed, the coagulated blood scooped away with the finger, and my patient speedily regained consciousness. The wound was allowed to bleed, free drainage maintained, and the lad made uninterrupted recovery. When last heard from he was perfectly well. This was before the days of antiseptics.

When trepanation is necessary it should be sufficiently extensive so that an accurate diagnosis can be made, and the difficulty relieved if possible.

WALTER I., aged thirty years, was thrown from his wagon by its being overturned while descending an icy hill. He exclaimed that a wheel had struck his head, but he unhitched his four horses, led them up the hill, and was entering a barn with them when he was seen to stagger and fall. He was carried into the house in an unconscious condition and a physician summoned. I saw him twelve hours later. Coma was profound, paralysis complete of both upper and lower extremities, pupils about evenly dilated, pulse full and slow, temperature normal. The history was one of hemorrhage. There was no external wound or other sign of injury. DOCTOR WILLIAM H. DECAMP was called in consultation. By pinching, et cetera, we imagined that we provoked very slight movements of the right leg, and a careful examination of the right side of head led us to think that over the middle of the right parietal bone the scalp was slightly thickened and ecchymosed. Upon cutting through the scalp at the suspected point, we found it contused and infiltrated. The trephine was applied at this location, a button of bone removed and a clot presented. This was broken down, a large amount of coagula removed as well as we could through the small opening, and the debris was washed away but no relief followed. Considerable hemorrhage occurred and the wound was closed. It was my sad privilege to make a postmortem examination of this case. I found a coagulum covering the entire right hemisphere, and rupture of the middle meningeal artery. I now believe that had we cut away sufficient bone, the entire parietal, if necessary, to have enabled us to remove the clot and tied the bleeding vessel, our patient might possibly have recovered. I would give my next similar case that treatment.

Mr. D., aged twenty-one years, was thrown from a car while in rapid motion, striking against some sharp, projecting instrument, producing a punctured wound of the left parietal bone. I have an imperfect history of the case until I saw it about six weeks later, but the man had been up and about in the interval. When I saw him he was having spasms of the right side of body, was insensible, and a large fungus cerebri was protruding through an opening in the skull. I removed the fungus, scraped away what sloughing tissues I could find and dressed the wound. The patient was almost moribund and died soon afterward. I was not permitted an autopsy. Had I seen this patient sooner I would have cut away the bone freely, and sought for the abscess which likely existed. Hernia cerebri is the result of internal pressure through a small opening, by effusion and infiltration, and will not occur if the opening is sufficiently large and the effused fluids permitted to escape.

In cases of blows upon the head followed by alarming symptoms, but without external fracture, much can be gained by obtaining a clear history of the accident, and the direction of the blow or line of concussion, as in the following cases:

A carpenter, while looking up toward the top of a building, was struck on the nasal prominence by a falling board. The line of concussion passed beneath the brain and medulla. He was knocked down and dazed, but he walked half a mile to a doctor's office without assistance. He went home in a carriage, about a mile, remained rational for a number of hours, complaining only of headache, weakness and dizziness. He then became dull and the next day was insensible, slight delirium supervened and continued for six days with no paralysis when death occurred, preceded by general convulsions. The autopsy revealed very extensive comminuted fracture of the base of the skull, the orbital plates of frontal bone, the sphenoid, ethmoid and basilar process of occipital, extending into the foramen magnum. The only changes found in the brain, besides effusion, were a few ecchymosed spots in the interior along the olfactory fissure. Death resulted from meningitis.

In a murder trial in Newaygo, Michigan, a man admitted having killed two persons by striking them on the head with an axe,—his wife, whom he found in bed with a man, and the man who had "ploughed with his heifer." The statement that he killed both at the same time, or one immediately after the other, was discredited, because when found the woman was rigid, while in the case of the man there was no rigor mortis for some time after the discovery of the murder. The testimony revealed the fact that the woman was struck on the top of the head. The line of concussion being directly along the medulla, bulbar paralysis followed with instant death, accompanied by tonic muscular spasm. The man was struck on the side of the head, the skull was fractured and he died of internal hemorrhage and compression. In the woman's case the skull was not injured. The man had sustained a fracture of the left parietal bone. In this case the prosecution attempted to prove that the prisoner lay in wait for his victim and killed him when he came to the house, or deliberately murdered him. The prisoner escaped a life sentence in the penitentiary by means of the medical evidence.

In those cases in which the symptoms point to internal hemorrhage, either with or without fracture, the early history of the case is important, for we may often ascertain with certainty where the clot began, and in the direction in which it is spreading.

A case in the practice of my friend, Doctor William Fuller, of Grand Rapids, Michigan, presented this history: Patient first complained of numbness of leg, then his leg became paralyzed, the arm of the same side rapidly followed suit, and then he lost the power of speech. The course of this clot could be followed as surely as if it could be seen outside the scalp.

When I consented to present the subject of brain traumatisms to this meeting, I intended to enter more fully into the symptoms produced by interference with the functions of the different cerebral centres, and their value as aids to diagnosis in head injuries, but I fear I have already reached the limit of your forbearance. I will therefore leave these questions to be brought out in the discussion which may follow.

I conclude this very imperfect and desultory paper with these propositions:

(1) I do not consider it scientific surgery to trephine the skull for fear that some lesion has occurred in the brain, nor until a lesion has been diagnosed with a fair degree of certainty, as this can nearly always be done in sufficient time to avert any harm by the delay.

(2) When trepanation is performed sufficient bone should be removed to enable the surgeon to thoroughly examine the injured structures, to relieve all pressure and to insure free drainage, through the dura and arachnoid if necessary, as this is indispensable in the prevention of internal pressure and destruction of brain substance when a lesion has actually occurred.

(3) With a fair degree of knowledge of the anatomy of the brain, a careful report of all cases coming under his observation, with accurate descriptions of each lesion found, so that every reader can readily understand its exact position, the surgeon can greatly enhance the value of his report and add to our knowledge of cerebral localization. Were this thoroughly and conscientiously done, a very few years would develop such skill and accuracy in the diagnosis of cerebral lesions that no mistakes in the use of the trephine need ever be made.

FREE HOSPITAL AND LODGE PRACTICE.*

By D. L. WALMSLEY, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively.]

In union is strength. The one great object of labor is remuneration. True it is that in the past medical men have been their own greatest enemy because inattentive to minor matters of mercenary nature made now by force of circumstances of vital consequence inasmuch as our existence depends upon them; therefore, the grave necessity of the unity I claim as a remedy. No other class of laborer is so much at the mercy of the employer as the medical. All other classes of employed have an understanding with the employer. No other class of workers, professional or nonprofessional, is so lax in stipulating for reward, or expectation of reward, as we; none so urgently required by night or day; and none summoned with so little regard to reward.

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*Read before the Detroit Medical and Library Association.

We are our own greatest enemy because we do not protect ourselves by being thoroughly united, not with the object of doing the public injustice but with an eye to the proper importance of our best interests and the public welfare. No class of men are so poorly paid for services (except a favored few), considering the time, education and money required to place and maintain ourselves in position to properly and promptly do our work; no other class of men whose uncertain hours of labor are twenty-four per day; no other profession requiring such an amount of knowledge ready for action on the spur of the moment; and none with greater responsibility. Why, then, should not we be firmly united in a brotherhood for mutual benefit?

Standing upon judgment hill and casting our eyes around and beyond, there seems to be a shadow of no small proportion overhanging the present and future of our profession. It appears to me that the present is a most appropriate time for united action in behalf of the best interests of our chosen profession. Many leading medical journals are warning the profession of the danger threatening us, of the degradation awaiting us, in fact already upon us, as a result of want of unity in our ranks. In the editorial department of The Physician and Surgeon for August, 1898, we find—"It is, we think, an undisputed fact that never in the history of medicine in this country have medical men been so driven to acquire a livelihood, has the dollar been so hard to earn or collect, as in the past half decade; the foundation cause is of course the entire lack of unity, the eccentricity—too thoughtless to be called policy—of the medical profession, which scatters its forces instead of garnering them, which encourages and fosters only the principle 'that each man must work for himself alone,' instead of 'that all should work together for common good.'" Let me quote further for you a few lines from an editorial in *The American Gynecological and Obstetrical Journal* for September, 1898, which, after showing the cause of failure, sickness, et cetera in the last war, says in conclusion: "Military surgeons, from the highest to the lowest, are placed in positions of the gravest responsibility and yet are deprived of the power to command; they are expected to carry out necessary plans and yet are altogether dependent upon the good will or perhaps whim of officers frequently inferior in grade and totally ignorant of the surgeon's needs for the simplest mechanical means wherewith to carry these out. What, then, is the message that this war carries to us? What lesson is ours to learn? It is that in the army as in civil life we are a disunited body of men, incapable, owing to our want of union, to command either the respect or obedience even of those inferior to us in knowledge or experience. Would the Surgeon-General of this country, our only representative in the administration of this government, the man to whom sixty or seventy millions of American citizens look for the preservation of the health and lives of our citizen-soldiers, continue to be merely an appendage of the Adjutant-General's office, if behind this man stood the influential voice of the one hundred thousand physicians in this land? But the thought is almost laughable that the profession of this country could stand unitedly behind anyone or anything; the public have long ceased to expect to hear a medical voice anywhere—unless it be that of an individual trying to advertise his personal wares by raising his little voice along the highway."

Are these true pictures of learned, honorable gentlemen, such as we are? Are our brother medical editors too harsh with their criticisms? I think not. Nay, had they called us idiotic simpletons, fools, fanatics, anything that would convey the idea that we are a class of men whose learning has made us mad to the extent that we are incapable of unitedly protecting ourselves, they would have conveyed to my mind, a truer statement of what we are. Allow me to say that —and I feel safe in saying it—there is not a class of men that wield such mighty influence over the general public as do men of our profession, going, as we do from day to day, year after year, into the homes of nearly every family in the land. Why should not we be a power at election time or any other time, if we were united? And were we not fanatical idiots we would be that power in the land that would at least protect our interests in medical matters. What think you? Are we not a weak-kneed, thin-skinned, cricked-backed, class of simpletons? It provokes me to think that we are so frail—even more that womanish. If we doubt the correctness of our brother editor's statements, let us view the situation obtaining in our midst and we shall see enough evidence to convince anyone but a zealot that we are incapables, or beings to be laughed at, or beings without a voice to raise in self-protection. Look at our free dispensing and hospital service. Is it any wonder that members of our profession are shabby-genteel as compared with votaries of other professions? How long shall we silently suffer these afflictions unmurmuringly? No less an authority than the *Medical Record* states without fear of contradiction that over forty-nine per cent. of the *entire population* of the city of New York last year received free medical and surgical relief, and that fully seventy per cent. of this number were quite able to pay a medical practitioner for reasonable service. Hospital abuses and lodge practice are among the great evils of the present age. Should I say *vera pro gratis*, things true rather than agreeable, and should anyone here feel that because he is connected with a hospital that what I say is aimed at him, let him be at once undeceived. I have no spite to vent on anyone. My object is purely to arouse in the bosom of my brother practitioner that ennobling feeling in his nature which makes him protect himself and his family against the inhuman encroachments of the wily politician and the overzealous philanthropist.

Public feeling moves in ruts. For many years past the tendency has been to overprovide for the poor. That the poor among us should be provided for is perfectly right and I would not have it otherwise, but public opinion has run wild, so much so, that it has robbed medical men, owing to their weak-kneedness, of their legitimate rights. It is quite right to provide for the really and truly poor and deserving, but the philanthropic door has swung so widely open and been made so alluring that all who like may enter. The public have come to regard our profession as a body of philanthropists who are honored by being privileged to do charity work, and no sooner has a sick person entered a hospital than a half dozen first-class doctors scramble over each other to get the honor of waiting on him, and not a question is asked about recompense for services so long as the hospital fees are paid. The class of patients who go to the hospitals are not all the truly poor and deserving—the ones for whom originally free dispensing and care was intended—but a class of designing sharks who could pay if payment were demanded. Every practitioner in this room knows by the list of debtors on his books that all the poor are not attended by hospital service nor by the city poor physicians.

In the face of all we have heard, and much more that we do not know, am I asking too much when I suggest a closer union between medical men? It is not my purpose to dictate to the profession what form this union should take, but that a closer business relationship should exist among members of our profession is evident. That we are justified in protecting our best interests is an undisputed fact. Why medical men should work for stock company hospitals free of charge, while every other person employed in these institutions receives pay and the stockholders reap a good interest from their investment, I fail to understand. That half the sick people of cities like New York or Detroit should receive gratuitous medical service because hospitals are provided is inexplicable on any sound business basis and is explainable only on the basis of perverted justice, probably due to the imbecility of medical men.

I think the original object of the hospital was to care for the unprovided needy poor. The hospital, being a charitable institution, was provided with gratuitous medical service to such poor and deserving. Whether the medical men were paid or gave free service I do not know. The poor did not pay, and should not now pay; but the medical staff should be paid by the institution. Why should the medical service, the most important service in the institution, be free in a paid institution? On no logical ground can this question be answered in the affirmative. It is perversion of justice, and no philanthropic fanciful interpretation can right it. Medical men simply have dug their own graves, which now, more than ever before, stand widely gaping for them. Shall we continue digging our own graves, or shall we rise to the occasion and forever obliterate the practice that has worked such havoc among our clan?

The lodge doctor is not paid sufficiently according to the work he does. Holding the position of lodge physician not only prevents himself but all his confreres from reaping a richer harvest from legitimate labor fields. A mutual union favoring the interests of the profession would work the cure for such parasitic cultures. It has come to the point in professional status that we must have protection, political and social, and we may only expect to get both by fraternizing. That we may expect to meet with obstacles difficult to manage is true. In every great reform it has been so. We may take courage and perhaps learn wholesome lessons from labor and other unions.

When Garrison proclaimed slavery a curse the North and South cursed him. Today the whole world seeks to conceal the fact that there ever existed such a being as a slave. If we hope to prosper we must advocate reformation as did the revolutionary fathers, having one aim—success; no chicken-heartedness should be in evidence.

From what class of medical men should we expect opposition to fraternizing? The answer should be, no class. It has often been suggested, from the college men. I should hardly expect the source from which medical men emanate would be guilty of any act calculated to militate against their best interests. How about the hospital men? They are of us and should be with us. If they oppose the betterment of the profession, we are the majority and the majority should rule. If the hospital men persist in perpetuating a professional nuisance for personal agrandizement let them ask themselves if it is ennobling to eat bread grown over their starving brothers' graves, even though the work they are doing be called philanthropic—a misnomer. How about the politician? Well, he is an enigma. The one hundred thousand physicians scattered over this broad land fearlessly doing their duty at election time and every other time are a power that must be felt, and when politicians know that a fraternity of such men are between them and the coveted office they will not be slow to read between the lines.

Are not our sister professions, law and theology, object lessons? Do they encourage free legal and theological practice? Do they keep up stock companies by free dispensing of law or theology, and pay everybody in attendance except the lawyers and preachers? Do we need any further proof that the farmer was right, when asked what he intended to make of his sons, when he said, "That one is a fool; I am going to make a doctor of him."

I hope and trust that we have not become so degenerate, so devoid of true professional honor, so weak in self-respect that there may not be found among us men of sufficient mental calibre and spinal firmness to right the wrongs that have been worked upon us under the guise of hospital philanthropy.

In conclusion, it is encouraging to find that an awakening is upon us. Even since the original of this paper was penned Grace Hospital has moved to suppress the free nuisance. We hope the effort may spread like sweet incense over the whole land, awakening in our people the proper appreciation of a just reward for our services to the rich as well as to the poor. May we not be encouraged from these contrasts, from editorials, and other signs along medical lines, to hope that the medical profession, of which we form an humble part, may yet be saved from death by apathy.

BURNS.*

By E. T. MILLIGAN, M. D., Detroit, Michigan.

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Burns originate in numerous ways, and may be defined as the application of dry or moist heat above a certain temperature. The varieties consist of those due to fire, steam, acids, molten oil, hot water, lightning, and, I must not forget to mention, burns due to the application of hot water bags or bottles. Several authors divide burns into ten degrees, but I believe this classification is burdensome and unscientific. The division of burns into three degrees is sufficient. In the first degree we have hyperemia, in the second bleb formation, and in the third eschar formation. In any of the three degrees mentioned we have the four cardinal signs of inflammation—heat, pain, redness, and swelling.

In burns of the first degree we have in addition to these signs a slight exudation of serum, due to a dilatation of the capillaries that supply the parts. Should the burn be of the second degree we find, in addition to the manifestations of the first degree, the formation of blebs. The blebs arise from the epidermis. In burns of the third degree we have the true cutis injured, with the formation of an eschar. So that in burns of the third degree we have a condition varying from partial destruction of the skin to complete destruction of the parts affected.

In burns of the first degree when half of the body is affected, death is certain to follow, and frequently when but a third of the body is involved the results are fatal. The burning of an extremity, even to complete destruction of the parts, is better borne than a burn of the first degree, which involves more than half the body. The cause of death immediately after burns is not yet positively known. It is held by **Werthum Ponfick** that death is due to the rapid destruction of the red blood corpucles which are necessary to respiration and metabolism, as sudden death of the red blood corpuscles has in itself a deleterious effect. The destruction of the red cells liberates the hemoglobin which is dissolved in the blood, thereby rapidly destroying the white blood corpuscles which favors the development of the febrin ferment, and of extensive coagula in the vessels. The uriniferous tubles are filled with a large amount of hemoglobin. In this relation we know that a certain forerunner of death due to burns, is suppression of the urine. **Sonnenburg** says that death is due to either overheating of the blood, with subsequent cardiac paralysis (in such cases it immediately follows the injury), or that the characteristic manifestations of collapse are to be regarded as the effect of an extensive irritation of the nervous system which has its reflex result, a lowering of the tone of the vessels.

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* Read before the Wayne County (Detroit) Medical Society.

Unfortunately as a result of burns in the young we frequently have ulceration of the stomach or bowels, meningitis, cerebral effusion, hemorrhage, and bloody diarrhea, while in the adult we are more liable to have as a result pneumonia, pleurisy, albuminuria, septicemia, tetanus, and erysipelas.

No doubt the theory advanced that the condition of the blood is altered in burns is true, for by no other hypothesis can we account for the fatal results which often follow even mild burns.

Treatment.—The relief of pain may be rapidly secured by the administration of a hypodermic injection of morphine. As a cardiac tonic one of the best is tincture of musk. It seems to control shock due to painful injury better than any other drug. If the burn is one of the first degree the application of an ointment containing a sedative, or the old linseed oil and limewater remedy is sufficient. In burns of the second or third degree picric acid in solution—5 to 1000—is an excellent application, as it relieves pain instantly, and is also antiseptic. Although picric acid possesses anodyne and antiseptic properties, I favor dry dressing. A powder containing two and one-half drams of pulverized camphor, and one ounce each of prepared chalk and magnesium sulphate, is one of the best. When powders are used the injured parts should be covered with oiled silk to keep the dressing from becoming entangled in the injured parts. The employment of a preparation containing mercury cannot be too strongly condemned, as the application of a bichloride solution to the denuded epidermis is fraught with the sure danger of absorption and the dire results of mercurial poisoning. I cannot speak too highly of a saline infusion when the prostration is great. Salt and water are always convenient. Very little skill is required in giving the infusion, and the results are most gratifying. Skin grafting should be tried to prevent the formation of cicatricial tissue, and lessen the danger of the formation of a cheloid.

In treating burns we must take into consideration that we also have a patient who has his peculiarities of constitution, and whose strength must be maintained.

It is certainly a grave error to change the dressing frequently, or when dressings require to be changed to expose all the burned parts at the same time.

MOVABLE KIDNEY AND ITS TREATMENT.*

BY RICHARD R. SMITH, M. D., GRAND RAPIDS, MICHIGAN.
SURGEON TO BUTTERWORTH HOSPITAL.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE terms "floating kidney" and "movable kidney" are in a popular sense usually synonymous, but strictly speaking "floating kidney" should be reserved for the congenital anomaly in which the kidney is movable, and is attached to the abdominal wall by the so-called mesonephron. This condition is very rare, or at least operations for its relief have been so. It is only with the acquired movable kidney that we have to deal. I will say, however, that W. BRUCE CLARKE has reported two cases of true floating kidney which he operated upon. One required later a nephrectomy to accomplish the cure. This was in 1895. Since then the method of piercing the kidney substance itself has been resorted to, and I see no reason why the true floating kidney, if it causes pain, should not be by this method as successfully operated upon as the acquired one.

The causes of movable kidney are probably many, and the matter is still widely discussed in our medical journals. Pregnancy accompanied by relaxation of the abdominal muscles is commonly assigned as the cause, but we find the condition in women also who have never borne children, and in men. LANDAU, and others as well, have ascribed it to the disappearance of fat from the fatty capsule—this occurring often in acute wasting diseases. Undoubtedly a certain number occur acutely as the result of a sudden strain or fall; a number of such cases have been recently reported. That the disease, if such we can call it, occurs much oftener in women than in men would certainly point strongly to the relaxation following pregnancy as being a strong factor in most cases. The use of the corset has also been said to be instrumental in causing this condition, though it seems to me without much reason. Women who are thin seem most prone to the disease, but who can say how many cases go undiagnosed in women who possess a greater amount of adipose tissue.

Regarding the symptoms of this condition there is a wide diversity of opinion. That a movable kidney when it is found should be set down as responsible for all the pains and disorders that the patient in question has ever had is in most cases, I believe, wrong. That it oftentimes exists free from any disagreeable symptoms whatsoever, is, I believe, entirely within the experience of every physician here. There are certain cases, however, in which the dislocation of a kidney does cause pain, this varying from a slight discomfort to the degree of rendering its possessor an invalid.

This is easily proven by the brilliant results that have been accomplished by nephrorrhaphy. Pelvic troubles often coexist with movable kidney. A certain prominent writer on this subject tells us that it is easy to say exactly what symptoms are due to the abnormal genital condition, and what symptoms are due to the kidney, but this I do not believe. Certainly many symptoms are common to both, and we all know the great variety of aches we may get from almost any one of the pelvic diseases one may choose to name. A careful consideration of each case, however,—a thorough examination of the pelvic and abdominal viscera, as well as the mental state of the patient herself—will often make the case quite clear. We may divide the symptoms into three groups: first, pain; second, derangement of digestion; third, disturbances of the nervous system. Backache has been denied by many authors. In most of the cases I have seen it has been present. Pain, however, caused from a twisting of the ureter is common; this comes in paroxysms, is often excruciating, and may pass away suddenly or more gradually. I saw one case last winter where, on my first visit, I was rather in doubt for a while as to whether I might not have a case of appendicitis before me. There were sudden severe pains in the right lumbar region, great tenderness near McBurney's point, vomiting and very slight rise of temperature, but the pulse was, however, normal. The pain passed gradually away and temperature and pulse were normal a few hours later. An examination of the blood revealed a lack of leucocytosis, and two days later, after tenderness had vanished, the kidney could be plainly palpated.

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*Read at the quarterly meeting of the BARRY AND EATON (Michigan) MEDICAL SOCIETY, held at Hastings.

To distinguish between such an attack and renal calculus is often very difficult, the extreme tenderness of the abdomen preventing any manipulation. The urine, however, will soon throw light on the case. These cases often simulate acute peritonitis from any cause. There is pain, distention of the intestines, fever, and more or less rapidity of pulse. The mildness of the constitutional symptoms would make us suspicious and a little time will clear up the case.

The symptoms in which we are mostly interested, and those which usually call our attention to the true nature of the trouble, are the symptoms on the part of the digestive tract. The difficulties with digestion, it is claimed, are due to a pressure of the kidney on the duodenum, producing obstruction and consequent dilatation of the stomach, with its usual accompaniments. Digestive disturbances occur, however, with left movable kidney, and I am inclined to regard Edebohls' idea of the relation of things as the correct one, namely, a tension upon the filaments of the solar plexus. Edebohls has called attention to a frequent association of movable kidney and catarrhal appendicitis. His theory is that the kidney obstructs the return circulation from the appendix, and in this way causes the catarrhal condition of which he speaks. I believe the theory is untenable. The nervous symptoms are numerous and varied. Most patients who suffer from movable kidney are neurasthenic to a greater or less degree. The rapid improvement in this respect following nephrorrhaphy justifies the statement that the nervous symptoms were dependent upon the kidney condition.

The diagnosis is usually easy. Every obscure abdominal case should lead us to examine the kidney. The patient is best examined standing. The clothes should be perfectly loose. One places the left hand in the lumbar region and lays the other on the abdomen just at the edge of the liver. Then by pressing inward and downward the kidney, if it is there, will be caught, and as it slips between the hands and goes back to its normal location it can be distinctly felt. With women who are fleshy examination is often attended with some difficulty, but a little patience will usually assure one of the existence or nonexistence of the kidney. The examination may also be made in the horizontal position. The patient lies with clothing loosened as before and with thighs flexed. Examination is then made much as before. The patient should be made to sit up a moment, if it is suspected that the kidney has already returned to its normal position, when it will again slip down and can be palpated.

As previously stated, many movable kidneys are unproductive of symptoms and require no attention. But when they do, the question at once arises as to what shall be done. Palliative treatment is applicable to a certain number of cases only. Much like a truss a bandage is inconvenient and usually allows the kidney to become frequently displaced. In many cases it seems to do no good at all. The method *par excellence* of curing these cases is undoubtedly by operation. Many operations have been suggested and performed. Those operations in which the capsule was not opened have most of them proved failures. I believe today the best operation done for movable kidney is the one suggested by EDEBOHLS. It is performed as follows: The patient is placed face downward and a cushion put under the lower abdomen in such a manner as to push the kidney back against the posterior abdominal wall. A special air cushion has been devised for this purpose, but any moderately hard cushion will answer the purpose equally well. Incision is made along the border of the long muscles of the back extending just below the lowest rib to the crest of the ileum. The matter of incision lies with the operator. Many make the oblique incision and many the straight. When the distance between the lowest rib and the crest of the ileum is great I think the straight the better, as one diminishes thereby the chances of entering the peritoneal cavity. After reaching the fascia this is divided and one enters the postperitoneal space. Care must be taken not to cut the peritoneum, which in the oblique incision may lie directly in the track of the knife. Should this accident occur, however, a few catgut stitches will successfully close it. EDEBOHLS reports a case in which the peritoneum was incised during this operation directly after he had attended a case of diphtheria. The woman promptly died of diphtheritic peritonitis. Ordinarily, however, one would not expect any trouble to follow a simple incision of the peritoneum. The fatty capsule which surrounds the kidney should be cleared away, and it is better to remove as much of this as can possibly get in the way during the last steps of the operation. The kidney should now be gently brought into full view and the capsule split from end to end. I have found it a very good idea to make a very slight cut, slip a groove director along the border and divide the capsule upon it. In this way one avoids wounding the kidney substance, which is soft and bleeds easily. The capsule is now peeled back off from the kidney for about one-half inch from the median line, and the flaps laid back away from the kidney substance. A curved needle carrying a number four strand of catgut (formaldehyde-gut is, I believe, the best) is passed deeply through the kidney substance in such a manner as to pierce both of the two reflected flaps as the needle enters and comes out. Six sutures of catgut are usually required. It is very important that no strain be put upon these sutures as the kidney substance is easily torn. Each end of the sutures should now be passed through the tissue on each side of the incision, the same passing simply through the fascia which is then likewise closed with catgut. The deep kidney sutures are then gently drawn upon and tied, bringing the kidney directly in contact with the fascia. The outer incision should be closed with silkworm-gut and a dressing applied. The wounds are very prone to suppurate, and great care should be taken in the preparation of the patient. Neither should one mutilate the tissues any more than is absolutely necessary. Should suppuration take place the incision should be opened sufficiently to get at the offending suture and the same be removed. I have never seen this interfere with the result. A slight amount of blood may be detected in the urine for a few days following the operation, but it disappears rapidly. The patient should lie in bed for three weeks, after which she may gradually sit up. Great care should be taken for six months to avoid any sudden strain.

THE TREATMENT OF THE FEVER OF PNEUMONIA.*

By GEORGE D. BEACH, M. D., Beacon, Michigan.

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In presenting this paper my purpose is to emphasize the efficacy of a treatment of pneumonia advocated by **Osler** and adopted in my practice for the past two years, which embraces fourteen cases with only one death, and that was a patient seen on the seventh day after the initial chill, having been brought in from a camp. He had a temperature of 105°, and lived only eighteen hours.

As pneumonia cannot be aborted and must run its course in a definite time, the treatment of the average case consists principally in keeping the patient well nourished and supporting the heart. It is yet one of the diseases we have to treat on the expectant plan, meeting the symptoms as they arise. Of these the one most often to demand our attention is the high and prolonged fever, which *must* be lowered. Whether the fever alone is hurtful or the toxins circulating in the blood, produced by the presence of pneumococci, which depress the vitality of the patient, I am not prepared to say, but this much I do know, that when we reduce the temperature without in any way interfering with nutrition or the heart's action, the prognosis in that case is much more favorable. In endeavoring to reduce the temperature we must be constantly on the alert lest we at the same time either interfere with the digestion and assimilation, or depress and weaken the heart's action, or both, by the injudicious use of drugs.

Previous to the past two years I had employed only the medicinal antipyretics in the treatment of the fever of pneumonia with exceedingly satisfactory results. Of these antipyretics I have found quinine the safest to use, while antifebrin and antipyrin were especially harmful, owing to the induced cardiac depression and weakness. It was necessary to administer quinine in large doses in order to get any marked reduction in temperature, and while in small doses it is a stimulating tonic, in large doses it invariably deranges the digestion.

When I began the use of cold water sponging to reduce the temperature, it was with considerable difficulty and much perseverance that I could induce my patients and patients' relatives to consent to this form of treatment. I have adopted the following plan: When the temperature reaches 103° Fahrenheit I instruct the nurse to sponge the patient, beginning with the arms and legs and finishing with the trunk, using water from 60° to 75° Fahrenheit according to the severity of the case. After sponging, the patient is covered with warm bedding without being wiped. This is repeated every one-half hour until the temperature falls to at least 100° Fahrenheit, and as often afterward as the temperature reaches 102.5° Fahrenheit.

*Read before the Upper Peninsula (Michigan) Medical Society.

I have never used the ice pack to the affected side, nor have I used the wet pack or cold bath, as I have had satisfactory results from the sponging, and the treatment is not so distressing to the patient as the cold bath.

In my limited experience with this method of treating the fever of pneumonia, I have found that it satisfactorily reduces the fever and stimulates the patient, the heart's action is improved, restful sleep follows its use, nervous symptoms are allayed and convalescence is more rapid.

INTUBATION.*

By JOSEPH P. O'DWYER, M. D., Detroit, Michigan.

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Eighteen years ago intubation was a novel procedure in Detroit. Today it is practically the only operation performed for the relief of laryngeal stenosis, whether acute or chronic. After passing the gauntlet of criticism, through which every operation must pass, it has been found superior in every respect to its predecessor, tracheotomy. In preantitoxin days there were a few objections offered, which justly, perhaps, might be reconsidered.

(1) Pushing or loosening of membrane before the tube, which as a matter of fact is very rare, the stenosis being due in the majority of cases to infiltration of the submucous tissues, as can be seen by a transverse section of a larynx from a patient dead of laryngeal diphtheria. It is only met in cases of prolonged croup, or those wherein antitoxin has been used late in the disease, and is produced by traumatism or premature removal of the obturator thus obstructing the tracheal end of the tube. It is easily recognized by a valve-like flapping sound accompanied by symptoms of extreme stenosis. If from this or any other cause air does not enter freely, the tube can be removed by traction on the thread, which should always be attached to the tube before attempting to insert it. Sometimes the withdrawal of the tube is accompanied by a portion of membrane, the removal of which gives the patient as marked relief as the entrance of the tube. Foreign-body tubes have been used with some success in these cases, though the connection of diphtheritic serum with croup has practically smothered their value. If this complication should occur in the absence of a physician the tube may be removed by slightly inverting the patient and placing the finger over the tongue, or, in other words, causing emesis which expels the tube into the mouth, from whence it can be removed by the attendant. Some operators advocate the method of placing the thumb in the episternal notch and pressing upward, which, as you can readily see, requires considerable force to raise the tube from its resting place. Fortunately the light rubber tube over metal used by most physicians, will be expelled by the child in case it becomes occluded.

(2) Feeding during the period of tubation, which many consider an objectionable feature, has been greatly exaggerated, as proven by the timely use of serum. Formerly it was said that particles of food entered the tube and produced pneumonia, but since the use of serum we see much less pneumonia which undoubtedly, in most instances at least, was caused by infection. Although the effort of deglutition is accompanied by persistent coughing and only at first

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*Read before the Wayne County (Detroit) Medical Society.

annoyance to the little patient, it is really of no consequence, though in fact, sometimes of great value by causing the expulsion of membrane. I have yet to see a case, in antitoxin days at least, wherein it was necessary to resort to rectal alimentation. The most satisfactory position in which to feed a tubed patient is, probably, an angle of forty-five degrees, or in a reclining posture which allows the liquid nourishment to gravitate over the epiglottis and although followed by some coughing at first, gradually diminishes as the epiglottis adapts itself to the tube. The Casselberry method, which is preferred by many, I have not found very useful. It consists in placing the head lower than the body, most readily attained by elevating the mattress or foot of the bed, and with the child on its side, administer the fluids from a small-mouthed cup, compelling the patient to swallow up-hill, so to speak. In the estimation of the average operator, it makes little difference which position is followed as the paroxysms of cough consequent upon swallowing gradually disappear, providing the tube is adapted to the larynx; and I may say that the selection of a perfect tube is the most important part of the whole procedure, for without a well-fitting tube the physician will experience all measure of trouble, as has been the case in the past. All the so-called improvements are nothing more than distortions. The original hard rubber tube which was discarded for use in children on account of its weight, which rendered it liable to be coughed out (though at that time it had no retaining swell), was replaced by a solid metal gold-plated tube which was used exclusively, until two years ago. Since the use of antitoxin, which has materially shortened the tubation period, the hard rubber metal-lined tube is used by most operators, and is in every respect the ideal tube, being sufficiently light in weight to be expelled by the child, in case the lumen becomes occluded, and yet, requiring an extreme effort on the part of the child to dislodge it by coughing, as the retaining swell prevents the body from raising above the vocal cords, though if a small tube is used the child may expel it with ease. As this tube exerts much less pressure than the solid metal one there is naturally less injury to the vocal cords and adjacent tissues, and being free from calcareous deposits, which are almost always found on the surface of the metal tube, the voice is restored much earlier after extubation.

I recently saw a child who had been intubated for laryngeal diphtheria, but instead of passing the tube between the cords, the operator pushed it through the left ventricle and down into the trachea. The little one progressed very nicely until the time came to remove the tube, which the physician could not find, and in his efforts to remove something that was not there set up an edema which threatened to be fatal. When I saw the child I was unable to locate the tube which I knew to be present somewhere in the trachea on account of the metallic cough. After waiting several days for the swelling to subside, with the aid of the attending physician we inverted the child, and in that position I could feel the head of the tube against my index finger and by mere good fortune the tube slipped over the extractor, and was removed without further difficulty. I make mention of this case to show that the loss of voice is not always attributable to the tube, but as in this case to an overanxiousness on the part of the operator to relieve the stenosis. It is more surgical to make several gentle attempts, than to make one bold one which is almost certain to do irreparable damage. The period of tubation also has considerable effect upon the voice In preantitoxin days the average was seven days. Under the present mode of treatment the average is four days and will, I think, be shortened to two days when we learn to use antitoxin earlier. In hospital practice, where assistance is at hand for any emergency, there is less danger in removing the tube, for should occasion arise it can be replaced. A great deal of stress has been laid on the time at which one should operate. The cardinal point is, how much serum has been used, and when. If within twenty-four hours after administering two thousand units the stenosis does not moderate it is a safe plan to operate, unless in an unusually strong child, or when the disease is of short duration, in which case it would be safe to wait an extra twelve hours. In any case symptoms of progressive stenosis are always an indication for operation, but never, regardless of circumstances, postpone until the child is comatose from asphyxia.

The prognosis depends almost entirely on the amount of septic infection existing at the time of operation, eliminating of course, such complications as pneumonia, nephritis, et cetera, which are liable to be present in the earliest stages of the disease. Providing the patient has had a large initial dose of serum (antidiphtheritic) within twenty-four hours after the advent of laryngeal symptoms, the probability is that the child will not require intubation, but in case it should, the operation will certainly be successful, and I feel safe in saying that ninety-five per cent. of these cases will recover. I would place it at one hundred per cent. were it not for the fact that complications coincident or consequent to the disease will claim at least five per cent. of the cases.

It has been verified by the report of the American Pediatric Society that in sixty per cent. of the cases of laryngeal diphtheria intubation is not required, if reliable serum (antidiphtheritic) has been used in the first stage of the disease. In a total of 1,704 laryngeal cases, there were six hundred and sixty-eight cases intubated. In the six hundred and sixty-eight cases there were one hundred and eighty-two deaths, or a mortality of twenty-seven and twenty-four hundredths per cent. In the first report of the society, in five hundred and fifty-three intubated cases the mortality was twenty-five and nine-tenths per cent., an exceedingly good record, when the nature of such statistics is considered, including all manner of cases, the degrees varying from the use of serum on the first day of the disease to its administration on the last or fatal day, and in some cases not exceeding more than a few hours before death. These latter cases are the ones we see published as death from antitoxin or intubation. Conclusions are easily formed, but it is nevertheless an undisputed fact that with the serum first and the tube second (when necessary) laryngeal diphtheria becomes one of the most amenable of diseases that we are called upon to treat.

Before relating the results obtained by the combined treatment, to which method I have limited the report of the cases included in this paper, I wish to say a word in regard to a couple of unusually interesting cases occurring in the practice of DOCTOR DULITZ.

The first case was that of a boy, aged nine years, suffering from stenosis due to goitre. The growth made its appearance about three years previous but did not have any noticeable effect upon the child's health until three weeks before we were called in. The mother consulted a prominent surgeon, who advised her to have the growth removed as soon as possible. She had already prepared for the operation, and would have had it performed the week following, were it not for the accident which necessitated the use of the tube. The family history presented what might be termed a goitre diathesis, all the members having suffered from the disease at some time or other during their career. Probably the most significant point of interest in the child's history was the fact that he never spoke other than to make certain sounds by which they understood his wants. In other respects he was bright and intelligent-looking, though of small stature. When I reached the house, the child was limp and apparently breathless, and without the aid of the gag I easily inserted a five to seven year old tube, an unusually small tube to use in any case with safety unless the stenosis is of a chronic nature. We applied restoratives and worked over the patient for at least ten minutes before there was much response to life. When he revived there was still considerable dyspnea, due no doubt to edema of the lungs, which continued to a greater or less extent for one week, during which time the temperature and pulse ran as in pneumonia, though all the physical signs of the latter disease were absent. The doctor put the boy under a general toning treatment, employing the iodide of potassium locally and with such marked improvement that at the end of two weeks I was able to remove the tube, which the little fellow wore with such convenience that he was able to partake of solid food quite liberally several days previous to its extraction. The growth has almost entirely disappeared, and the little fellow appears much stronger than before, though the doctor tells me that his voice is much the same as when he first saw him about three years ago.

The second case was that of a boy aged six years, who had been suffering from a spasmodic, croupy cough for a couple of weeks, which was attributed to the swallowing of a safety pin. The mother consulted the family physician, who examined the throat carefully, but found nothing to account for the croupiness except a slightly congested condition of the glottis. The ordinary remedies having failed to give any relief, the physician procured a culture from the upper part of the larynx, which was negative, though not an unusual occurence in true laryngeal diphtheria. The patient began to fail in strength, presented some fever, was croupy all the time, and subject to violent paroxysms of cough, but suffered little inconvenience in breathing until the second week. I was called in by the doctor at the end of the second week, on account of the gradually increasing dyspnea. Under the circumstances a laryngoscopic examination was out of the question, as the youngster would submit to nothing. Upon exploration of the upper portion of the larynx with the finger, I was positive that I could feel the spiral end of the pin, but when I made an attempt at extraction, it had apparently disappeared. During this interval the dyspnea which was severe did not improve, and we felt quite certain that unless the child obtained more air, in a very short time he would die. I inserted a regular-sized tube, five to seven, and to my surprise without meeting resistance, and with the same pleasing relief we are so accustomed to see in cases of diphtheritic stenosis. The doctor saw the child regularly and as nothing further developed I concluded to remove the tube, which I did on the fourth day, after which the child could breathe as well as ever though he still retained the croupy cough. An examination of the throat and chest was negative. The recovery was uneventful and three weeks later he coughed out the pin open, which was a medium-sized safety pin, and no doubt lodged in the trachea the stenosis being due to edema of the parts above the pin.

The following report is a synopsis of thirty-one cases intubated during the past two years for stenosis due to laryngeal diphtheria, wherein the operation was either preceded or followed by the administration of antidiphtheritic serum. We will first consider the cases intubated prior to the use of antitoxin. I have placed them in tabulated form, so the number of each case will correspond with the number in the table:

Case II.—A girl, aged nine years, had suffered from an attack of tonsilar and pharyngeal diphtheria for four days previous to the onset of laryngeal symptoms. Besides the ordinary treatment, antiseptic inhalations were resorted to, but as the case progressed the symptoms became more alarming. I was called by the attending physician on the morning of the third day of laryngeal involvement. The child was then suffering from sepsis with broncho-pneumonia. After operating I suggested the use of two thousand units of serum, which was given about noon, the child dying seven hours later, or about sixteen hours after intubation.

Case III.—A well developed lad of five years, presented croupy symptoms two days previous to my visit, when his condition gave every evidence of being diphtheritic on account of the gradually increasing stenosis. Immediately after operating, with the consent of the family physician, I injected one thousand five hundred units of antitoxin serum and thirty-six hours later he expelled the tube, and progressed fairly well for about one week, when paralysis set in, which caused his death ten days later, in spite of the most thorough treatment.

Case VII.—A girl, aged four years, had been suffering four days from laryngeal diphtheria, at the end of which time I intubated, and advised the immediate use of two thousand units of serum, which was given as soon as procured. The following day the child was much improved, but during the evening she developed pneumonia, caused from extended infection, and died the day following.

Case XI.—A boy, six years old, recovered from an attack of tonsilar diphtheria, when suddenly one week later he developed a very severe attack of croup, and as the stenosis became dangerous intubation was performed, the attending physician using one thousand five hundred units of antitoxin serum a few hours later. He made an uneventful recovery after having worn the tube for four days.

Case XV.—A baby girl, aged ten months. A physician was called when the child was cyanosed and in a moribund condition, and therefore intubation had to be performed immediately. One thousand five hundred units of antitoxin were used but the child died sixteen hours later of sepsis.

Case XIV.—A female, aged ten months, developed croupy symptoms twenty-four hours before a physician was summoned. Intubation, urgently required, was performed, five hundred units of serum were administered and another five hundred units were employed later, but contrary to expectations the child died of septic pneumonia fourteen hours after the operation, with a temperature of 106° in the axilla. This case I have little doubt was of longer duration and had we used two thousand units of serum the result might have been different.

Case XXI.—A girl, aged one year, presented symptoms of laryngeal diphtheria for three days, at the expiration of which time intubation became necessary. After the operation we gave one thousand units of serum, but in spite of all our efforts she grew gradually weaker and died thirty-six hours later of sepsis.

Case XXIII.—The patient was a bright, healthy young girl of seven years, who developed diphtheritic laryngeal stenosis two days prior to intubation. Immediately after the operation we injected two thousand units of antitoxin serum. She progressed nicely and wore the tube well for two days, after which she developed a severe pain over the cardiac region, and began to suffer from dyspnea, which the parents thought was due to the presence of the tube, and at their command I was compelled to remove it, though the patient died three hours later, of paralysis of the heart.

Case XXV.—A boy, aged two years, had been suffering from diphtheritic croup for four days. When operated upon his condition was extremely unfavorable. The physician administered one thousand five hundred units of serum, but on account of the septic condition of the system it could have little effect, and consequently the child died the following day.

Case XXVI.—A delicate and anemic boy of five years, had been suffering from an attack of pharyngeal diphtheria, which was apparently improving, when he developed laryngeal symptoms, which he had had for four days before I had occasion to operate upon him. We gave him one thousand five hundred units of antitoxin serum, after which he made a rather slow recovery, wearing the tube for seven days.

So much said for those who hesitate. We will now consider the cases wherein the serum was used with the hope of warding off intubation, and although the operation was necessary in each instance, the invaluable good of antitoxin and its part in the prognosis of the operation will be appreciated.

Case I.—A boy, aged two years, was suffering from laryngeal diphtheria for three or four days. The first physician in attendance had used about fifteen minims of antitoxin. The remainder was on the table in the original package the parents refusing to allow him to use it, for reasons they failed to make clear. The second physician not knowing the circumstances called me to intubate, which I did, with immediate relief to the child, but the family would not consent to the employment of antitoxin. The tube remained *in situ* for a week, and one evening, in the absence of the attending physician, they sent posthaste for me and demanded that I produce the tube immediately. Circumstances would permit of no alternative and against my wish I removed the tube and told them the child would live about two hours. It was scarcely an hour when they were after me, but as they would allow me to use neither antitoxin nor the tube I told them I certainly would not go. The regular physician being out of the city, the parents called in a doctor who gives protonuclein for everything, with the usual result, as he explained the constituents of the preparation to me, that the child recovered.

Cases IV, V and VI.—These are so nearly alike that they may be classed together. In each instance upon the second day of laryngeal symptoms, each child received one thousand five hundred units of serum (antidiphtheritic), but as the stenosis increased surgical interference became necessary. Each child wore the tube four days, making a good recovery.

Case VIII.—A boy, aged two years, developed an attack of laryngeal diphtheria during the course of scarlatina. He had been suffering from the latter disease some ten days before the laryngeal trouble set in. Many contend that this form of laryngitis is not diphtheritic, rather membranous, but we all, no doubt, have from experience become impressed with the malignant nature of the trouble, and I am pleased to say that from my experience at least, antitoxin is equally efficient as when the trouble occurs independently of the exanthem. One thousand five hundred units of antitoxin were adminisiered on the second day of croup and later in the day intubation was performed, the little fellow recovering rapidly four or five days later.

Cases IX and X.—These resemble each other so much that they may be classed as one, in that they both received a large initial dose of serum early in the disease, and although in case nine it was necessary to repeat the dose, both cases recovered rapidly after having worn the tube the accustomed period.

Cases XIII, XVI and XVII.—These are much the same, as each patient received two thousand units as the initial dose, which many consider the smallest dose applicable to a well-marked case of laryngitis, whether diphtheritic or membranous. These little patients all recovered after the usual length of time without developing symptoms of particular interest.

Case XII.—I had almost overlooked the case of this little girl of two and one-half years of age. She had suffered an attack of pharyngeal diphtheria, upon which two one thousand five hundred unit doses of serum were used with apparently good effect. Four or five days later, however, it extended into the larynx, and another one thousand five hundred units were administered but with little effect, as the child required the tube the day following. The patient progressed favorably for three days or more when she developed an unusually high temperature, which upon examination proved to be due to broncho-pneumonia. We removed the tube, administered the fourth one thousand five hundred unit dose of serum, besides employing the usual remedies and giving strychnine freely, but despite all efforts she died just three weeks after the original attack. The urine contained quantities of albumin, and the membrane extended forward on the tongue and lips, even after the fourth dose of serum had been given. This is one of those cases that a physician occasionally meets, wherein serum seems to be almost useless. There is reason to believe that the serum used was as good as any in the market.

Case XVIII.—That of a girl, aged five years. She was cyanosed and almost pulseless when operated upon, though two thousand units of serum had been administered the same day, about twelve hours previous. This case was one of four or five days' duration. Twenty-four hours after intubation she coughed the tube out, which is not an uncommon occurrence a few hours after a large dose of serum has been given late in the disease. The girl recovered without further need of the tube.

Cases XIX and XX.—These were unusually protracted cases with high temperature and general septic infection. The physician used three one thousand five hundred unit doses of serum in case XIX, and yet on the fifth day it was necessary to operate. Case XX, a girl of seven years, was one of the most stubborn cases I ever saw. One thousand five hundred units of antitoxin were given at the onset, but symptoms became so severe it was necessary to use the tube. During the tubation period of six days we gave three two thousand unit doses of serum with such good effect that the patient recovered.

Cases XXII and XXIV.—Each received one thousand five hundred units on the second day. Intubation was performed in each instance late on the second day of the disease. Both patients recovered, having worn the tube three and four days respectively.

Cases XXVII, XXVIII, XXIX, XXX and XXXI.—These are very similar, differing only in degree and duration. The oldest patient, who was six years, and the youngest one received alike one thousand five hundred units, and in only one case was it necessary to repeat the dose. In one child two years of age the disease existed six days before serum was used, and yet the patient made a fair recovery after having worn the tube six days without further employment of serum.

My object in dividing the cases as I have is to show, or rather prove, the advantages of the early use of serum, more especially in connection with intubation. Of the first ten cases just related, or those wherein intubation preceded the use of antitoxin, eight died and only two recovered. Of the twenty-one cases treated in the proper manner, namely, by antitoxin first, and intubation later, only one died, or a mortality of four and seventy-seven hundredths per cent. against eighty per cent. by the former method, giving a total mortality of twenty-nine and three one hundredths per cent.

Intubation is a simple means of combating an emergency, the gravity of which we all understand. Those of the profession who have stood by the bedside of a little patient suffering from stenosis due to laryngeal diphtheria, or, in fact, to any cause, and witnessed the great relief that comes to him after the entrance of the tube, and the expression that beams forth from the little one's eyes, can most appreciate the incomparable value of the operation, especially valuable when used in conjunction with that God-sent remedy, antitoxin.

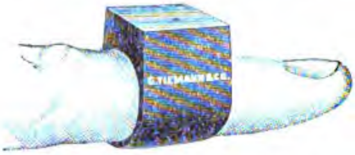
PHYSICIAN.	Case Number.	Male.	Female.	Age.	Duration of Disease when Intubated.	Amount of Serum.	Operation before use of Serum.	Operation after use of Serum.	Period of tubation.	Complications.	Cause of Death.	Result.
W. J. Brand, . .	1	I		2 y	5 d	500		A	7 d	seps		R
" " . . .	2		I	9 y	3 d	2000	B		16 h	seps		D
" " . . .	3	I		5 y	2 d	1500	B		36 h		paral's	D
E. Z. Rodd, . .	4	I		5 y	2 d	1500		A	4 d			R
K. Dubpernell, . .	5	I		4 y	3 d	1500		A	3 d			R
G. P. Johnson, . .	6	I		5 y	2 d	2000		A	4 d			R
H. A. Wright, . .	7		I	4 y	4 d	1500	B		2 d	seps-pneu		D
W. C. Kitchen, . .	8	I		2 y	3 d	1500		A	4 d		scal'na	R
T. J. Parker, . .	9	I		16 m	2 d	2150		A	5 d		bron	R
F. N. Henry, . .	10	I		2 y	3 d	1500		A	4 d			R
W. J. Cree, . . .	11	I		6 y	3 d	1500	B		4 d		bron	R
W. C. Stevens, . .	12		I	3 y	2 d	3150		A	7 d		bron-pneu	D
" " . .	13	I		7 y	3 d	2000		A	4 d			R
" " . .	14		I	10 m	1 d	500	B		14 h	bron-pneu		D
P. C. Dulitz, . .	15		I	10 m	3 d	1500	B		16 h		seps	D
" " . .	16	I		5 y	2 d	2000		A	3 d			R
" " . .	17	I		6 y	3 d	2000		A	4 d			R
" " . .	18		I	5 y	4 d	2000		A	1 d	cough'd out		R
" " . .	19	I		3 y	5 d	3350		A	5 d	bron-pneu		R
" " . .	20		I	7 y	4 d	4200		A	6 d			R
J. B. Kennedy, . .	21	I		1 y	3 d	1000	B		36 h	seps		D
" " . .	22		I	4 y	3 d	1500		A	4 d			R
" " . .	23		I	7 y	2 d	2000	B		2 d		paral's	D
G. S. Kennedy, . .	24		I	3 y	2 d	1500		A	3 d			R
N. L. Sage, . .	25	I		2 y	4 d	1500	B		1 d		seps	D
N. F. Brown, . .	26	I		5 y	4 d	1500	B		6 d			R
Own Case, . . .	27	I		6 y	2 d	1500		A	4 d			R
" "	28	I		2 y	6 d	1500		A	7 d			R
" "	29		I	4 y	3 d	2000	2		5 d			R
" "	30	I		1 y	2 d	1500		A	3 d			R
" "	31	I		4 y	2 d	1500		A	3 d			R

320 Fourteenth Avenue.

A RING-PLEXIMETER.

By EMIL AMBERG, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively]


G. TIEMANN & CO.

The accompanying figure shows a ring-pleximeter which was first made for me, in Germany, some years ago. The upper surface is flat, the lower surface is convex. The pleximeter fits the second phalanx of the forefinger. It adapts itself easily to the intercostal spaces and the supraclavicular fossæ, so that in percussion more exact results can be reached than with a common pleximeter. The hole is nearly oval-shaped. The pleximeter is made in several sizes. The instrument may prove of advantage in many cases. The cut represents the pleximeter in about two-thirds of its natural size. It can be procured from Tiemann & Company, of New York.

32 Adams Avenue West.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, NOVEMBER 7, 1898.

The President, CHARLES DOUGLAS, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor David L. Walmsley read a paper on "Free Hospital and Lodge Practice." (See page 78.)

Doctor Samson: The subject does not concern me very much, except that if there are any clinics in Detroit that are suffering from a grievance in this direction they have my sympathy. The paper did not follow the exact tenor of my ideas of what the doctor would have written. The plan laid down for overcoming the difficulties which now exist has not been entered into very deeply. I am not a lodge doctor; never have been, and never will be. I would not be at the beck and call of any one man whenever he demanded my services. I am unalterably opposed to lodge practice. The one excuse offered why we should deal leniently with these societies is that they are philanthropic. That is not so. They are a fraud, and organized as a speculative scheme, and come to the medical profession and ask them to become victims. It is my candid conviction that a man cannot be a first-class member of this association and be a physician for any lodge or society; that is, he cannot sacrifice his social dignity by performing services for one hundred dollars a year. It is dangerous to the community for the doctor to do this. The services rendered cannot be satisfactory. The people who belong to these societies do not receive the attentive treatment that is given to persons who pay the usual fee. I have not the slightest doubt that there are thousands of people buried in the United States every year by the reckless system of lodge practice. The same argument will apply to hospital treatment. It is an evil in the very same manner. Many persons are in their graves who would not be there if they had retained their family physician and paid him what they could for his services, and stayed away from the free dispensaries of this city. Notwithstanding this statement I would pay a tribute to many physicians who are present for what they have done to relieve suffering humanity. The free dispensary practice is an evil and a growing one. The patients that flock to these institutions are improperly treated because the physician has not sufficient time to study each case that comes under his observation, and as a result improper diagnoses and faulty lines of treatment are pursued. In this way a vast deal of harm is done by good practitioners. Another question to be considered is that the reputation of the family physician is damaged by the patient receiving an impression that he or she has been improperly treated. I recall a case of my own, in which one of my patients visited one of the clinics of this side, where she was informed that her physician did not understand the nature of her disease. That patient went about injuring me in every possible manner by stating that she had a narrow escape with her life by coming to me for medical treatment. In Philadelphia means are being taken to correct this evil. It is necessary to bring a certificate from two reputable people certifying that the bearer is unable to pay for treatment. Again, free hospital and dispensary practice is upheld by those in charge of medical schools because it supplies clinical material for students in attendance. I maintain that the careful and scientific examination of one case is vastly more important than seeing the physician hurriedly examine twenty patients in less than an hour.

Doctor Collins: Doctor Walmsley has told us what we do not know. Doctor Samson has told us what we ought to know. I agree with all the latter has said in regard to lodge practice, and have refused to act as examiner for the same reason as given by him. Pauperism is encouraged by free medical treatment. If they can only pay five cents it preserves their self-respect. We thoroughly respect those men who teach or give their time in the treatment of patients in hospitals. It has been observed, however, that the object of the hospital has been to get the names of a few men before the people, advertise them and enable them to profit indirectly by getting a reputation for great skill. There are cases of worthy poor that should certainly be taken care of. They should not be taken care of by the physician alone. But if we treat people who claim to be unable to pay, yet would if they knew they could not be treated free, we do an injury to deserving physicians. As Doctor Samson has said, thousands of people receive very little benefit—almost none—from the clinics and free dispensaries. My hospital experience has taught me that much harm is done while very little benefit is received. As Doctor Walmsley says, unity is needed among medical men. We have in this case a question of supply and demand. We cannot control the supply, but we can control the remuneration by unity.

Doctor J. H. Carstens: I would say in spite of Doctor Samson's statements, that there is another side to the question of dispensary evil. I must deny that you can compare the city of Detroit with the city of New York, or that eighty-five per cent. of the people are treated at dispensaries. I know that not more than four thousand people are treated free in Detroit hospitals. Two thousand of that number come from outside the city, so there is but a small proportion of people treated free in this city. When it comes to dispensary practice, I must say that the patients who receive treatment are nearly all poor. I have seen patients dressed in sealskin sacks, and I know that they did not have a bite to eat. These people must be treated. As far as lodge practice is concerned, I have been through that myself. I have examined hundreds and hundreds of men for a dollar each, and took as much pains making the examinations as I did in examining applicants for old line companies. I have had in my dispensary experience as high as thirty or forty patients a day, and gave them just as good treatment as they would get by going to their own physician. The colleges have done good work by educating people to a higher standard of education, and I appreciate Doctor Samson's kindly expression of good will toward the college.

Doctor McGraw: There is a good deal in what has been said for which I have sympathy. There is also a good deal of what has been said which I think is overdrawn; that is to say, gentlemen have taken their experience in New York where things are done in that immense wholesale way, and have brought that forward as if it were a fact here in Detroit. It is not a fact here in Detroit. I have "surgery" in Saint Mary's Hospital, and I examine all of the surgical patients that appear there. I do not have fifteen or twenty patients a day. I generally have in my clinic six cases. I can operate upon them and show students, satisfactorily, the condition. I think the statement made is overdrawn. I regret to note in some of the remarks presented something like the following: that when patients went to the dispensary there were men who were careless of the general practitioners. That is not so. I state for myself and my colleagues that I never make a remark in my clinic about the practitioner who has attended until that patient has gone out of the room. I frequently get letters from the doctor who has treated that patient saying he is threatened with malpractice because of remarks that I have made to the patient. They absolutely lie. We have become too magnanimous to each other. When a man comes to me and says that I have maligned him I will not believe him. Now, as regards the motives of dispensary practice and hospital practice. I think many physicians misunderstand them. The great principle is to get patients to bring before the classes in medical schools. You cannot teach practical surgery without patients. We are obliged to have those poor patients to facilitate teaching, and I say positively that so far as any of that practice bringing money is concerned it does not bring the doctor money only in so far as it makes him a competent man. I do not care a farthing about being called professor. The title of professor is dirt cheap. If there is anything in being a professor it is in making a man learn. Notwithstanding all that, there is something in the remarks of the gentlemen who have spoken, and the remarks of Doctor Collins about pauperism are correct. We have too many hospitals. Moneyed women want a hospital which they can control. As Doctor Collins has said, our hospital volunteer organization is a vicious system. It is an exceedingly perplexing question. It is degrading in many ways, but we must have clinical patients. A woman that is examined by half a dozen students cannot have the same respect for herself, and yet what can be done. If there is any way that can be devised whereby we can stop this gratuitous treatment of people able to pay, there are none who will so heartily ratify it as those of us who are connected with hospitals and free dispensaries.

Doctor Jennings: My colleagues have presented the hospital side of the question very satisfactorily. As Doctor McGraw says, we are all interested in this matter. Regarding Doctor Walmsley's remarks about the unity of the profession, I do not think it is possible to make a trade's union out of the medical profession. Those questions of united action on the part of the professions are rather delightful dreams.

Doctor Don. M. Campbell: During my twelve years' connection with the clinic at Harper Hospital there have been a good many patients treated at the clinic who were quite able to pay. I believe fifty per cent. of the people who come there are really poor, fifty per cent. could pay something, but forty per cent, of them are able but will not pay. Another point of peculiar interest to me is that occasionally I have received letters written to me by physicians out in the country asking if they could not send a patient to the clinic. Of late I have written answers to similar requests, and have said that if the patient is really a pauper we will help him, and in scarcely a single instance would we ever see them.

Doctor Lennox: The subject is one that I am interested in, and I have been very much pleased with the discussion, and also the doctor's interesting paper. It is very evident to us present that the hospital and also the college side of the question has been ably presented. About a year ago I read a paper before the Wayne County Medical Society on the subject of the dispensary evil. One doctor spoke of four thousand being about the limit of patients treated at clinics. I have examined statistics and believe the number should be fifty thousand. I do not think physicians have any objections to the colleges having all the clinical material necessary, but what a great many do object to is that they use them for the advantage of a few who may be connected with medical schools.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, DECEMBER 13, 1898.

THE PRESIDENT, FREDERICK W. ROBBINS, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR GEORGE DUFFIELD read a paper on the "Treatment of Chronic Heart Diseases Associated with Tachycardia. (See page 67.)

DOCTOR EMERSON: This subject is an interesting one to me, as I have had cases like those reported. The value of a bath with three ounces of salt to ten gallons of water is entirely in the temperature. I do not believe that salt and soda as used have any value. They appear to me to be frills to amuse the patient. There is no doubt but the gradual use of physical exercise is of great value. The treatment of tachycardia from alcohol and tobacco is quite sound, namely, rest and getting the patient in good condition. In tachycardia from Graves' disease I use the fluid extract of cactus grandiflorus in doses of twenty minims. I have used from ten to twenty minims T. i. d. for months with good result and no unpleasant effects. In several cases, wherein the tachycardia has possibly though not absolutely been due to Graves' disease, after failing with thyroid extract I obtained relief from the cactus.

DOCTOR WYMAN: I am glad to hear this description of the cases, but the author omits the study of the urine. Tachycardia, in many of my cases, has been due to kidney disease. A pulse of 180 seems to me pretty hard to count. The concensus of opinion in regard to the fastest beat that could be counted accurately at a meeting of physicians a few years ago was about 135 per minute, and not much higher. A case of tachycardia that I had was due to fluid in the pleural sac, which had pushed up the heart. The pleural cavity was infiltrated with a non-liquid gelatinous mass which remained even when the cavity was opened. Rapid heart action was also due in one case to solidification of the lung. The rapid beat may be due to encroachment of the pneumogastric nerve at the base of the neck, or to trouble with the accelerator nerve. Papers of this sort, of bedside cases and of a physiological nature, are very useful.

DOCTOR WARREN: I should like to ask if a dose of twenty grains of sulphonal every three or four hours until sleep is secured in tachycardia is not a serious one? It seems rather large to me.

DOCTOR INGLIS: The problem of the cause of tachycardia is obscure. Sulphonal is not so depressing on the heart as might be supposed. The worst effect it has is that it makes the patient stupidly drunk. There is more fear that it will not work than it will. The more complete and absolute the rest the quicker the patient will catch up. The use of strychnia is not logical. Sleep and absolute quiet help to build up nerve centers, and that is the best we can do. Baths and graduated exercise are along that line. Will the persistently rapid heart prevent a man from living his expectancy of life? Insurance companies are very rigid about it. My own experience is that when a man with rapid heart contracts other diseases his condition becomes critical. The functionally rapid heart is not so bad as in the cases wherein the muscle is affected.

DOCTOR TIBBALS: How are we to determine an habitually rapid heart?

This kind of heart has a good deal of interest for insurance examiners, and it is hard to decide about such a risk. As regards large doses of hypnotics, an alcoholic patient with insomnia took during the night one hundred and thirty-five grains of chloralamid and fifteen grains of trional, and then did not sleep well.

Doctor Inglis: I become satisfied of its frequency by repeated examinations made by myself or some one trained to make them for me.

Doctor Wilson: I have been pleased with the paper. We should try to discover the cause of the tachycardia and remove it. I have no faith in the use of salt water, yet salt added to the warm water produces a mental effect.

Doctor Manton: I have had no experience in these cases except after an occasional laparotomy. Here especially, when there have been many adhesions, the sympathetic may be affected and produce for a week or more a pulse of 130 to 150.

Doctor Hitchcock: I have had no experience with cases of this class. **Doctor Greene**, of Saint Paul, has lately called attention in *The Journal of the American Medical Association*, October 15, 1898, to the Schott method, which he has used for the past three years. He reports the cardiac area reduced in size by the use of this method. Saline baths and resistant movement have been used at Nauheim for forty years. I am surprised that **Doctor Emerson** has so poor an opinion of salt. Salt has a stimulating effect, as shown by the tonic effect from a sea bath.

Doctor Robbins: A patient injured in a railroad accident had tachycardia. He was watched for some time, was seen by several, and the condition was thought to be permanent after it had lasted six months. When his damage suit was settled he recovered rapidly.

Doctor Duffield: In giving the baths the attendant rubs the patient while in the bath, which lasts from ten to fifteen minutes. In counting pulse I use the stethoscope over the heart and can count 200 easily. I am not afraid of sulphonal. From trional I have had depressing effects. I do not think the area of cardiac dullness was lessened by these baths. **Broadbent** says it is all rot.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, DECEMBER 8, 1898.

The President, ROBERT H. HONNER, M. D., in the Chair.
Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Joseph P. O'Dwyer read a paper on "Intubation." (See page 88.)

Doctor B. R. Shurly: The doctor's observations coincide with mine during the past three years. Dangers of the operation are almost a thing of the past. Occasionally when the tube is introduced the membrane is peeled off and pushed down the trachea, but experienced operators know that this accident is beneficial, as the tube can be removed and the loosened membrane is soon coughed up by the patient and the tube is reintroduced. Antitoxin should be given in all cases (in children) wherein there is tonsillitis, hoarseness, et cetera, and the physician should not wait until a culture is made or a positive diagnosis assured. It can do no harm, and I believe many lives might be saved by this procedure. At the beginning of a case I use one thousand five hundred units, in laryngeal diphtheria two thousand units. Hard rubber tubes are the best. The mortality of intubation cases is rapidly diminishing. In my first one hundred cases there were seventy-one recoveries and twenty-nine deaths. Since returning to the city I have had thirteen cases with two deaths. Antitoxin and intubation have worked marvelous results.

Doctor Mulheron: It would hardly be polite at the present time to say anything against antitoxin, one of the latest additions to our therapeutic stock. It seems to be a matter of fashion to administer this, as well as others of the newer additions to our armamentarium. Personally I think the older and tried remedies are not used enough. During three months' service in the contagious department of Harper Hospital I treated thirty-three cases of diphtheria with no deaths. A short time after the same number of cases were treated and antitoxin used, and there were *two* deaths. These latter cases were made the basis of a report, showing the beneficial results of antitoxin. I believe that antitoxin should, as yet, be considered under trial. The superiority of intubation over tracheotomy cannot be questioned. The natural serum, the blood, should not be forgotten, and should be fortified by appropriate medication.

Doctor Stevens: I am very much in favor of the serum treatment; at the same time I believe that other means suggested by the experience of the profession should not be forgotten. The administration of the serum certainly softens and loosens the false membrane, but I would not care to treat diphtheria without using other medicaments.

Doctor E. B. Smith: My experience with diphtheria has been somewhat varied. I have done tracheotomy and intubation. At present I have others do this work for me—men who make a specialty in this line. I believe intubation should be done early. Antitoxin is a good remedy, but I think that as a rule not enough is given. I am of the opinion that the intubation tubes are too short.

Doctor O'Donnell: I firmly believe in the efficacy of antitoxin. I have had excellent results from its use, and cannot see how anyone could condemn it with faint praise.

Doctor Bacon: Antitoxin, like vaccine, has come to stay. I have treated a large number of cases of diphtheria and only lost one case. Two of my cases were laryngeal, requiring an operation. I advocated tracheotomy, and this operation was performed with good results.

Doctor Weitz: Epidemics vary in virulence. I have thought that possibly the success of antitoxin was due to the fact that less of the strong and powerful drugs were not used. Intubation is preferable to tracheotomy, because the inspired air passes through the natural passages and is modified accordingly.

Doctor Anderson: Antitoxin is the only thing needed to cure diphtheria.

Doctor Polozker: Doctor Bacon, in my opinion, is entirely wrong about tracheotomy. Intubation is easier to perform, the after treatment is simpler, and no chloroform is required. Antitoxin has not received enough praise this evening.

Doctor Troy: Antitoxin and intubation cannot be praised too highly. They have both achieved marvelous results.

Doctor Kestell: I do not favor antitoxin, believing in the old line of treatment. I think more attention should be given to the gastro-intestinal tract and to keeping the hepatic functions in good condition. The nasopharyngeal cavities should likewise receive proper attention.

STATED MEETING, DECEMBER 15, 1898.

The President, ROBERT H. HONNER, M. D., in the Chair.
Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor E. T. Milligan read a paper on "Burns." (See page 82.)

Doctor Fritz Maass: Treatment should be directed especially to relieve pain and keep the wound aseptic. Burns should not be dressed too frequently as severe pain is caused in removing the dressings. In some cases the permanent water bath is useful, in others the application of dry powders. Subnitrate of bismuth is good. The patient should be given chloroform, the parts put in an aseptic condition and all destroyed tissue as far as possible removed. Bismuth should then be employed and covered with oiled cloth or silk.

Doctor Emil Amberg: It occurred to me when the essayist was reading that sometimes midwives measure the temperature of the water by the hands, and cases are reported wherein newborn children have been fatally scalded by careless midwives when giving the initial bath.

Doctor Carrier: Death as the result of burns often occurs very suddenly. If a burn is at all extensive I object to the use of powder, especially if there is much oozing. The powder cakes, a hard mass is formed and with every respiration or movement of the injured part pain and irritation is produced. The simplest and best remedy in my experience is castile soap. First degree burns should be bathed in a bichloride solution and kept covered with dressings soaked in the same. A solution of picric acid is very useful in some cases.

Doctor Gordon: I agree with **Doctor Carrier** in regard to the use of powders. Bismuth has never proven satisfactory in my hands. Pain, of course, should be relieved and the injury protected from the air. I have used aristol with success. The patient as well as the injury should be treated.

Doctor A. H. Johnson: I have used a saturated solution of picric acid with the best of results, especially in scalds. Pain was instantly relieved and there were no scars resulting.

Doctor Maire: A great many patients die from the effects of inhaling steam or gas at the time of the accident. The essentials in treating burns are to relieve pain and apply suitable dressings, such as can be easily removed, and also exclude the air. I have had good results by using sheet cotton and applying to it a mixture of ten grains of camphor and one ounce of cosmoline. This is laid over the injury, causing relief from pain and a stimulant effect from the camphor. Resin cerate is also a stimulant to granulations.

Doctor O'Donnell: A few weeks ago a case came under my observation wherein a man was severely burned by hot tar. Carron oil was applied with little or no relief. I then applied campho-phenique with excellent results. There was no pain after the first application. My experience with powder has been unsatisfactory.

Doctor G. A. Kirker: My experience has been similar to that of **Doctor Maire**. More benefit is derived from the use of camphor in some form. If pain can be relieved without the use of anodynes, good results are accomplished. My experience with powders has not been good.

Doctor Hislop: I have used a simple remedy, and that is sweet oil and starch. The oil keeps the starch from caking. Bicarbonate of soda in powder or solution has not been satisfactory to me. If the burn is due to an acid we should be careful not to apply water as heat is produced. In these cases a dry powder produces the best results. The air should be excluded to protect the nerve filaments.

Doctor J. H. Sanderson: I believe the beneficial results of campho-phenique are due more to the carbolic acid it contains than to the camphor. Carbolic acid has an anesthetic effect on the nerve endings. The acid, it is said, may be absorbed, but there is not much danger as there is an outflow of serum. I have had the best results from the use of carbolic acid applied lightly over the surface of the burn.

Doctor Thompson: I have just treated a severe case of burn in a child, by applying pledgets of cotton soaked in normal salt solution. Pain was soon relieved and the case is progressing nicely.

Doctor Patton: A thin coating of white lead applied to superficial burns is cooling and gives good results. Dressings should be frequently changed, especially if there is much necrosis going on. In simple burns a solution of bicarbonate of soda is good. Collodion is useful in some cases.

Doctor Weitz: We should aim to relieve pain and secure healing without any deforming scar. I find carbolic acid the best for the primary application.

I use the pure crystallized acid dissolved by heat. There is no absorption. This application excludes the air and produces an aseptic field and is also anodyne. A thin coating should be applied with a camel's hair brush.

Doctor Honner: Bicarbonate of soda is useful when applied immediately. Carron oil is used by many and is certainly useful, but the disagreeable odor of the oil makes it undesirable. Castor oil is much better than the flaxseed oil. I do not approve of the use of mercurial solutions. Prognosis in even the simple cases should be guarded.

Doctor Milligan: I feel pleased at the remarks my brief paper has brought out. I do not favor carbolic acid. I believe that mercurials are irritating and favor dry dressings.

REPORT OF CASE.

Doctor Maass reported a case wherein he was called to operate for supposed intestinal obstruction. The operation was not done because, in the doctor's estimation, it was not called for. Later the man died and postmortem revealed that typhoid fever was the cause of death, although in life there were no symptoms pointing to this trouble, at least none had been noticed.

EDITORIAL ARTICLES.

THE REWARD OF VANITY.

At one of the entertainments which, according to Plutarch, Dionysius made for Plato to appease his enmity, the tyrant kept saying: "I suppose, Plato, when you return to your companions in the academy, my faults will often be the subject of your conversation." "I hope," answered Plato, "we shall never be so much at a loss for subjects in the academy as to talk of you." A like retort would be applicable to some of the abuses of the present day, and we should withhold attention and remark did they not concern our professional welfare. The purpose and methods of the so-called Saint Luke's Hospital, at Niles, Michigan, having been so meritoriously exposed by the daily press, for which we as a profession are obligated, need no further reference from us. According to all accounts gullibility is not a worn out quality of medical men and women, and they are not few for whom—

"some sweet hope lies
Deeply buried from human eyes."

While preferment and praise naturally belongs to the strong and successful, yet it is a regrettable fact that in the pursuit of these signs of greatness our vanity sometimes impairs our judgment and bears an uncoveted reward.

Wise as a serpent, however, was the editor of *The Medical Fortnightly*, whose vanity was tickled with the following letter from one of our Detroit firms:

Detroit, Michigan, November 18, 1898.

Dear Sir—We contemplate getting up a "Medical Receipt Book," especially adapted to the rural districts, and our effort is to gather from leading physicians their simplest and most effective remedies for a book that can be safely used in homes where the services of a physician are not easily obtainable. *It is in such section that such a book is needed* and sells best.

Almost every physician has his specialties—diseases that he is most successful in treating—and usually has some safe and simple remedy for them. Our aim is to gather these from reputable physicians from the four quarters of the earth, and to compile them in a systematic and convenient manner in one volume for use in rural homes.

We herewith enclose a little booklet containing a list of diseases, and if you will be kind enough to give us your remedies under such heads as you may select, we will, as soon as the book is out (within one year), mail you a special copy bound in full morocco, full gilt, with gilt edge. Kindly write your name and address—where to send the book—on the last page of the booklet.

As to the character and reliability of our house, we refer you to any physician in the city, to the mayor, to the postmaster or to any bank. Hoping that we shall receive an early and favorable response from you, we are

Yours respectfully,

F. B. Dickerson Co.

The editor states that he was asked to give a "safe and simple remedy" for "locomotor ataxy, lockjaw, inflammation of the lungs, milk scab, milk fever, diseases from mercury, muscular spasm, nightmare, old age, pain, palsy, paralysis, piles, pigeon-breast, pleura-pneumonia, salt rheum, Saint Anthony's fire, sand worm, scarlet fever, scarlatina, sclerosis, seat worm, shaking palsy, shortness of breath, stagnation of blood, stitch, water on the brain, waxy disease," and numerous other diseases, a list from 1 to z.

In the fair city of Detroit, of which F. B. Dickerson, the president and treasurer of the above named company, is by favor now postmaster, and in all Michigan, including even the rural districts, this letter speaks for itself. Incidentally we desire to state that, so far as we are able to learn, no physician in this city has permitted the reference which the F. B. Dickerson Co. have impudently presumed to give. We desire also to congratulate the talented editor and all others, into whose hands these letters have fallen, upon their characterization as "leading physicians" and the modern vocabulary method of their medical specialism. For the rural physician we have no fear. He is able to look out for himself. His patients, as ours, ever the game of the wily charlatan, will be subject to only one more menace by the production of these enterprising dispensators of modern scientific medicine. After all this is only one of the many instances in which as tools of the cunning tradesmen we are asked to compromise not only our dignity and temporal welfare, but also our neighbors' best interests. Against some of these abuses the law is unable to afford protection. The only safeguard is within ourselves. Eternal vigilance is the price of safety.

THE NEW BRITISH INEBRIATES ACT.

In 1879 the English Parliament passed a temporary Inebriates Act, the distinguishing feature of which was the legal affirmation of power to the habitual drunkard to sign away his liberty, for a period of not more than twelve months, for reformative and curative purposes. The provisions of this act were made permanent by the Act of 1888. Evidently the administration of these acts was judicious and quite satisfactory since a third act, containing new provisions for the remedial treatment of criminal inebriates of both sexes, was enacted in July, 1898. This measure came into effect January 1, 1899, and, according to the *British Medical Journal*, contemplates two classes of criminal drunkards. One group consists of habitual drunkards convicted of an offense punishable with imprisonment or penal servitude. In lieu of or in addition to any other sentences the convicted may be ordered to be detained for a period not exceeding three years in any State inebriate reformatory, or in any certified inebriate reformatory, the managers of which are willing to receive them. The other class is composed of repeaters, that is, habitual drunkards who, within the twelve months preceding the date of commission of the fourth offense, have been summarily convicted three times of an offense charged in the first schedule. These persons shall be liable on conviction to be detained in any certified inebriate reformatory, for a period not to exceed three years. For the purposes of this act there are to be established and maintained two classes of inebriate reformatories, namely, State inebriate reformatories and certified inebriate reformatories established by any county or borough or by any persons so desiring. The expenses of inmates detained in these institutions are to be met by the treasury, although any county or council may contribute for this purpose. If the inebriate person have real or personal property more than sufficient to maintain his family, his estate may be made liable for the cost of his detention.

As our own laws contemplate the safety of society only and nothing looking toward the remedial or curative treatment of these unfortunate criminals they surely reflect less of our modern civilization than they should. The favorable results that these acts have given in England indicate the nature of some improvement in our own legislation. While we may idly boast that Great Britain leads us in the consumption of liquors she may be rightfully exalted by her laudable endeavor to retrieve the lowly state of her unfortunates.

ANNOTATIONS.

THE POSTPARTUM DOUCHE.

It is interesting to watch the swing of the pendulum of opinion in any department of science or art. From the midpoint, where its motion scarcely attracts attention, it proceeds to the extremity of ostentation and dogmatism only to return again into the obscurity of moderation. Such has been the history of the postpartum douche and other antiseptic frills of the lying-in chamber. We are all quite familiar with the precise rules of practice only recently proclaimed as it were from every housetop, and now, when they have been learned, are cautioned lest we too zealously observe them. According to *The Philadelphia Polyclinic* the postpartum douche has already been discarded even in the outpatient obstetric service of the Polyclinic. Their treatment, following which they report no occurrence of septic infection, is as follows: The patient's body is thoroughly cleansed before she is put to bed. A vaginal douche of lysol or creolin is then given. After labor the patient is again cleansed but no douche is administered. This practice, the result of both theory and art, corresponds we doubt not with that now most generally in vogue. Labor is the culmination of a physiological act and is itself a physiological occurrence. Unless it be as a result of meddlesome artifice there is no apparent reason why a normal process under normal conditions should be made so laborious and uncomfortable as has sometimes been the case.

ONLY THE WHITES?

Leucorrhea is possibly the commonest affection of womankind. A *rara avis* is the woman in whom it does not sometime make its appearance. To the majority it signifies little or nothing since its course is usually mild and soon ends. It is this fact, however, wherein lies an element of danger. Not only are the patients themselves liable to regard carelessly an apparently similar but really more serious condition and thereby waste precious time, but even those whom perchance they consult for "only the whites" sometimes accept their ready-made diagnosis, and, in the bliss of ignorance, the cases may recover or proceed from bad to worse. The need of correct diagnosis is perhaps nowhere [illegible] Doctor John G. Reed has [illegible] danger that might [illegible] The [illegible] inflammatory process, [illegible] of the invalidism [illegible] for more vigorous [illegible] may often be [illegible] Even cancerous [illegible] interference. It is [illegible] these apparently simple [illegible] of their possible [illegible]

[illegible] OVER-OXYGENATION OF THE BLOOD.

[illegible] effect produced by the [illegible] of the blood is also [illegible] acquired and turned to [illegible] Doctor W. G. A. Bonwill, in *The Dental* [illegible] of anesthesia in 1856, but dates the [illegible] breathing method from 1872, since [illegible] other means of painless surgery in dentistry. [illegible] the suffering infant from the constant [illegible] to the discovery that rapid breathing [illegible] at the rate of one hundred to the minute, [illegible] of the nerves and nerve centers that analgesia [illegible] the patient still be conscious of touch. * * * A [illegible] and the breath held in the lungs will suffice for [illegible] that is needed in extracting the temporary [illegible] * * * When this (rapid breathing) is done [illegible] chloroform only one-half the quantity is used, the [illegible] there is not as much danger." As an indication of [illegible] remarks that after rapid and full inhalations for [illegible] for the next three minutes is only about six to the [illegible] has been over-oxygenated. The application of these [illegible] midwifery is obvious.

CONTEMPORARY.

CONSULTATIONS WITH SPECIALISTS.

[THE INTERNATIONAL MEDICAL MAGAZINE.]

The unavoidable increase in specialism and the resulting multiplication of specialists are in some respects injurious to general practitioners. Patients of means and the over-anxious ones in all the walks of life are prone to become restive and seek extra advice from physicians reputed to be unusually skillful in the diseases from which they believe themselves to be suffering. This is true not only of those who are ill in bed, but even more so of walking patients afflicted with chronic maladies. The former cannot be gratified in this respect except by a formal consultation, the desire for which is made known to the family physician; but the walking patient very often says nothing about his desire as to further advice, but goes straightway and gets it by calling upon some specialist at his office. In the case of such a universally recognized specialty as that of the eye, it is now well understood that the majority of persons in cities select their own ophthalmologists as they do their dentists. This, of course, is not as it should be. The family physician should first be consulted concerning everything pertaining to the health or physical well-being of those under his charge and recommend a specialist when one is needed.

The reprehensible tendency of the laity to decide these matters for themselves is possibly due in part to the fact that many practitioners rarely suggest a consultation even in their most stubborn and difficult cases until urged by the patients or their friends to permit one and then sometimes interpose objections. The most successful physicians we know never object to a consultation, though usually insisting when possible upon their right to select the consultant. To protest against meeting another physician in a case is usually impolitic and indefensible, especially in cities where ethical consultants who are in no sense rivals, can always be had. It is apt to lessen confidence and lead (in chronic cases at least) to surreptitious visits to the offices of men who are not likely to be as able or careful of the interests of the family physician as the specialists whom the latter would have recommended.

There are two obvious remedies for this growing habit among the laity of running off to specialists without the consent or knowledge of their usual medical advisers. The first is to have the family physician master as much as possible of the newer lore in all the branches of medicine so as to be able to treat with a large measure of skill and success most of the cases that come before him without the need of consultations. Not that it will be practicable for him to learn, with ever so much pains, to do as well in every one of the various departments into which modern medicine has come to be divided, as some of the men who have had the best special training and a larger experience in them. It would be absurd to expect the most accomplished general practitioner besides attending to all his obstetric and pediatric work, his fevers and influenzas and pneumonias, along with all his ordinary general surgery, major and minor, to be able at the same time to perform skillfully abdominal sections and intralaryngeal operations, or to keep up perfectly with all the most recent advances and discoveries in the abstruse subject of neurology or of digestion and assimilation. But by taking occasionally during his dullest season a course at some polyclinic, buying books liberally and reading regularly a number of the best medical journals, he ought to be able so to perfect himself in his art that a very large proportion of even his chronic cases could be successfully handled without the help of specialists.

The second remedy is never to try to dodge a consultation but rather to welcome one whenever it would be of advantage to the patient. When the ailment is one like eye-strain which men in general practice as a rule are not expected to understand or treat; when it involves a surgical operation which the physician has never done, or a difficult chemical analysis such as that of the stomach contents, which he feels he is not equal to; or when it involves serious complications of any kind as to which he knows that the unusual knowledge and skill of a specialist would be very desirable, he should promptly seek a consultation with some confrere concerning whose loyalty and ability there can be no question. We place loyalty or strict ethical conduct before ability, because there are consultants enough in every department of medicine who besides being competent are thoroughly careful always to protect in any contingency the interests of the family physician.

RECENT PUBLICATIONS.

REVIEWS.

HUMAN ANATOMY.*

UNTIL this publication first appeared there had been, at least during recent years, no complete treatise on anatomy comparable with that of "Gray." This work in its revised and enlarged form cannot fail to please even the most critical. Its aim may be said to have been realized in "being a complete and systematic description of every part and organ of the human body so far as it is studied in the dissecting room." It contains some new and desirable features. Most of the illustrations are new and original. Many are reproduced from dissections and yet are distinct enough to be of use. The illustrations are particularly well described. There can be no reasonable misinterpretation of them. The publishers deserve especial commendation for the truly artistic as well as useful presentation of the work.

* Edited by Henry Morris, M. A. and M. B., London, Senior Surgeon to the Middlesex Hospital; Examiner in Surgery in the University of London; Member of the Council, and Chairman of the Court of Examiners of the Royal College of Surgeons of England; Honorary Member of the Medical Society of the County of New York. Philadelphia: P. Blakiston's Son & Company, 1898.

SAUNDERS' POCKET MEDICAL FORMULARY.*

Although we have never been in favor of stereotyped formulæ when removed from the descriptive text, yet as helps and hints they are of value. With the more than seventeen hundred prescriptions, useful tables of various kinds, hints for emergency practice, et cetera, this work is truly a *multum in parvo*. It is now in its fifth and thoroughly revised edition.

*By William M. Powell, M. D., author of "Essentials of Diseases of Children"; one of the Associate Editors of the "Annual of the Universal Medical Sciences"; Attending Physician to the Children's Seashore House for Invalid Children, and the Mercer House for Invalid Women at Atlantic City, New Jersey; Member of the Philadelphia Pathological Society. Philadelphia: W. B. Saunders, 1899.

MANUAL OF OPERATIVE SURGERY.*

This volume compares very favorably with the smaller works on operative surgery. It is more complete than most manuals. For students' uses, for which we understand it was intended, it will be found of great value. It is entirely modern and satisfactory for class-room purposes.

* By H. J. Waring, M. S., M. B., B. Sc. (London), F. R. C. S., Demonstrator of Operative Surgery and Surgical Registrar, Late Senior Demonstrator of Anatomy in Saint Bartholomew's Hospital; Surgeon to the Metropolitan Hospital; Surgeon in Charge of the Throat and Ear Department of the Metropolitan Hospital; Surgeon to the Belgrave Hospital for Children; and Erasmus Wilson Lecturer to the Royal College of Surgeons, England. Edinburgh and London: Young J. Pentland, 1898.

THE PORCELAIN PAINTER'S SON: A FANTASY.*

A critical review of this brief narrative on our part almost unavoidably reopens a not altogether agreeable subject, for it is not merely a fantasy. As the editor observes, "Fact and fancy are united to form the fabric; the web of a man's life is here, the flowers of fancy are wholly in the woof." In truth fancy is prettily woven into the web of Hahnemann's life, and is well calculated to sustain the memory of that remarkable character. The author's object is significant. We respect the reverence he feels for Hahnemann and his doctrines, and the enthusiasm and candor he exhibits in the arraignment of his professional kinsmen, though no sympathy is aroused within us. We willingly forbear criticism on the main points at issue, as it would brook no good. Over Hahnemann's life, however, we confess to having some feelings of disgust. For no cause was he martyred except by his individual preference for a theory, an excuse which, in our opinion, poorly atones for the bitter need of those toward whom existed his strongest obligations. This little tale is effectively told and will serve a purpose. Meanwhile we, too, shall watch the oscillation of the pendulum and await the residuum of sterling truth in the refiner's crucible.

*Edited with a foreword by Samuel Arthur Jones, M. D. Philadelphia: Boericke & Tafel, 1898.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

ETIOLOGY AND TREATMENT OF PHTHISIS PULMONALIS.*

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[Published in The Physician and Surgeon exclusively.]

In compliance with the request of your worthy President, I will present a brief paper on a subject which is always intensely interesting to our craft, namely, "Phthisis Pulmonalis."

In so doing I shall confine myself principally to the two most prominent features of the subject—the etiology and treatment. The term phthisis pulmonalis, however, covers a multitude of conditions and for that reason is undoubtedly a very useful member of medical nosology, although I am aware that many of our so-called advanced brethren earnestly desire its extinction and the substitution of the more modern term, tuberculosis. This question, moreover, would at once suggest a discussion of the various clinical forms presented by so-called pulmonary consumption, but the time allotted and scope of this paper will not allow of it. Suffice it to say that according to my clinical observation we meet with two distinct types of the disease. The one, a primary tuberculosis, a more or less general affection, and the other a secondary tuberculosis following injuries and diseases of the air passages or other organs. Variations, of course, between these two are often observed, but the rapid straightforward course to destruction of the former as compared with the slower sepsis and diverse local characteristics comprised in the latter class, serve easily to distinguish them from each other.

Having now called your attention to the complexity of the classification and possibly also to the differential diagnosis of the disease, I will now pass to a topic which seems fully as complex and vexatious, namely, its Etiology, unless we dismiss from consideration clinical observations and clinical experience, and accept the popular decree that *all* pulmonary consumption *is* tuberculosis and that there is but one cause—the tubercle bacillus. From the latter point of view the subject becomes a very simple one and certainly as grateful an easement to the disturbed medical mind as an ancient religious creed is to the aboriginal mind, for its pathology and its etiology could then be summed up thus: no tubercle bacillus, no pulmonary tuberculosis or pulmonary consumption. But, unfortunately, clinical observation brings to light so many clouding facts as to obscure the conclusive brightness of such a dictum, and we are therefore forced to recognize that the tubercle bacillus is a factor only, or, perchance, an incident of the disease process. I am aware that in uttering such an opinion, I render myself liable to the censure of many radically inclined bacteriologists and physicians, but nevertheless feel justified in doing so for many reasons, among them the following:

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* Read before the Bay City Medical Society.

(1) Many of the cases of pulmonary phthisis show no tubercle bacilli until the disease is well advanced.

(2) The origin of a majority of the cases of pulmonary phthisis can be traced to previous diseases such as influenza, bronchitis, pneumonia, pleuritis, typhoid and other fevers, et cetera, alone or added to an hereditary diathesis.

(3) The tubercle bacillus being widespread and imbibed more or less by every person should produce tuberculosis in nearly every case of ordinary laryngitis, bronchitis, et cetera, which may arise—a result which does not occur. Doctor E. F. Ingalls says of this: "From the widespread prevalence of tuberculosis which is said to affect eighty per cent. of the human family, it is probable tha all of us are at times infected by the Koch bacillus; but so long as the general and local resistance is adequate, it is harmless and the disease can make no progress. This hypothesis is supported by the fact that notwithstanding the large percentage of people affected by tuberculosis, the majority of them recover."

Again, the tubercle bacillus is supposed to be the causative agent in tubercular peritonitis, pleuritis, lupus, osteo-synovitis, et cetera, yet the course of these diseases respectively is very different; for instance, pleuritis is rapid and destructive, while so-called tubercular peritonitis is generally chronic, and lupus is exceedingly chronic. Furthermore, why should the tubercle bacillus inaugurate on the one hand a rapidly fatal septic disease of the larynx (tubercular laryngitis), and on the other a mild chronic and non-septic disease of the larynx (lupus)? Can it be that this vicious enemy of life exercises a discriminating capacity in its invasion of tissues, and destroys in the one case and simply annoys in the other? The explanations given for these apparent anomalies of behavior of the tubercle bacillus, as you are aware, are referred to the differences of virulence, and other conditions of the microörganism, and the resistance of the particular tissues invaded. But such theoretical explanations cannot be admitted without a stretch of the imagination, especially when applied to the larynx, peritoneum, pleuræ and joints. The larynx, for instance, ought to be particularly susceptible in cases of phthisis pulmonalis, for there are always abrasions and always bacilli-laden sputum applied to such abrasions in such cases, yet the facts show that but a small proportion of cases of pulmonary phthisis show laryngeal infection.

Again, it is generally conceded by clinicians that other bacteria, such as the streptococcus, are largely responsible for the septicemia and other clinical phenomena accompanying pulmonary phthisis. Doctor F. I. Knight, in referring to NIEMEYER's well-known aphorism, says: "In the light of modern pathology, the danger of a tuberculous patient is that he become consumptive." In this connection a word or two concerning the contagiousness of phthisis pulmonalis, may not be out of place. Overzealous bacteriologists and so-called sanitarians would inculcate the idea that phthisis pulmonalis is a contagious disease in the ordinary acceptation of the term, and would isolate, quarantine, indeed immure these unfortunate victims. Such ideas of vigorous prophylaxis are for the most part based on laboratory experiments demonstrating the inoculability of the disease. I think no one questions the artificial inoculability of the disease, or that infrequently it may be communicated from one person to another by exposure—natural inoculation, but there is no absolute proof that it is spread by either contagion, by diseased meat or diseased milk, to any great extent. The proofs of such methods of dissemination of the disease are lacking, and yet some persons would apply the same rules of strict quarantine to pulmonary consumption that are adopted against small-pox and scarlet fever. KOCH in his celebrated treatise, says: "It seems to me that the time has now come to adopt prophylactic measures against tuberculosis. But owing to the wide distribution of the disease all steps taken against it have to deal with the social relations, and it must be therefore carefully considered in what way and how far we may proceed without neutralizing by unavoidable disturbances and other disadvantages the benefit obtained." Besides the danger of dried sputum, which has been so efficiently promulgated, FLÜGGE, of Berlin, has called attention to another probable means of the extension of the disease through the dissemination of tubercle bacilli from the droplets of the mouth fluid issued from the tuberculous patients into the air. DOCTOR J. J. CURRY, of the United States Army—as quoted by DOCTOR V. Y. BOWDITCH—after making a few experiments in this direction concludes that FLÜGGE's admonitions of danger are largely overestimated. DOCTOR BOWDITCH, one of our most careful observers, in a paper read recently before the American Climatological Association, says concerning these points: "What I dwelt upon then was chiefly the fact that in our enthusiasm for the results of recent bacteriological work, we are in danger sometimes of forgetting the patient's position, and in our desire to prevent the spread of disease are oblivious of the fact that by sweeping, unguarded assertions we are not only creating a spirit almost of terrorism among the friends but are causing mental anguish to the phthisical patient himself, who feels himself a leper, a constant menace to the health and comfort of those he loves. I cannot think I am alone (in fact I know I am not) in having instances of the unreasonable, sometimes brutal behavior among friends of patients founded upon an exaggerated fear, as I deem it, of the infectious nature of tubercular disease, which we have been taught loses its chief source of danger when moderate measures are used for the prevention of infection." He also introduced a letter which had been written from one member of a family to another who had a cough: "On no account, whatever, must you enter my house again; you are a source of danger to everybody." I can let you imagine the effect of such brutal words to a young delicate girl. A subsequent letter in answer to the mother's indignant reply, said: "The highest authorities tell us this is [meaning phthisis pulmonalis] a very infectious disease and I must think of my child."

I have met with similar instances in my own practice and have heard of such instances from other practitioners. "It may be said that the physician's function is merely to point out the truth as far as he knows it, and that he cannot control the selfishness and brutality of those with whom he comes in contact. This may be true to a certain extent, but I maintain that we are losing sight of one of the highest and noblest functions of the ideal physician if, in giving our rules for the protection of the well, we do not use caution in our statements founded upon recent comparative experimental work, and fail to inculcate at the same time that spirit of kindness and thoughtfulness for the feelings of sick which humanity demands."

Many similar quotations could be added if time would allow. It seems almost unnecessary to remind an audience of practical physicians that inasmuch as sanitary science originated from and became evolved through the medical profession that it ought not to soar beyond its source to reach metaphysical regions but be developed in its progress along with the other departments of medicine.

Before leaving this part of our subject, I would like to call your attention to another source of error in considering the etiology of phthisis pulmonalis, namely, the slight attention paid to the factor of heredity and its substitution by the idea of contagion. Too frequently cases of phthisis pulmonalis occurring in one family are used to illustrate the effect of contagion when they are examples of heredity. There is a race of immunes from tuberculosis (*New York Medical Journal*, December 10, 1898) at Saint Ourn, France, who have always been particular to marry among themselves and who lead an outdoor life for the most part and who have never had a case of tuberculosis occur among them. Although the other people of the community suffer from tuberculosis these people do not. Now, what a notable illustration of the effects of heredity, and the feebleness of contagion this community offers.

In discussing the TREATMENT of this disease, or the disease comprised by the name pulmonary consumption, much time could be taken up, so that in my attempt at brevity I shall necessarily have to omit much that would be interesting. The treatment may be classified as follows: Hygienic, dietetic, climatic, specific, symptomatic, inhalant and surgical.

Hygiene.—The hygienic treatment is very important in all classes of cases but should be urged with much judgment. Outdoor life is certainly desirable for many cases even when the temperature is high. I have no hesitation in recommending patients who are under a temperature of 101° to 103° to lie outdoors in cool weather. Indeed such a course is salubrious, but care should be exercised that there be no chill on or that the skin be bathed with perspiration at the time. Frequent bathing—that is, by immersion—I have found to be prejudicial when the disease is active. In such a case, sponging the surface with salt water and ammonia is preferable. Exercise should not be allowed if there be much fever or weakness. Regarding clothing phthisical patients usually wear too much, especially in the house. Unless the practitioner keep a lookout the patient will get on his body two or three flannel shirts or drawers, besides an abominable chest protector, under the almost constant apprehension of "taking cold." The room occupied by the patient should be an airy and an easily ventilated one if possible.

Diet.—As you know, a majority of phthisical patients suffer from anorexia. No sort of food will be acceptable. Several theories have been advanced to account for this condition, but they all fall short of an adequate explanation. One would think that in a wasting disease nature would certainly beget an instinct for the consumption of extra food, but as a matter of fact she does not, as we all know. Oftentimes the taking of cough syrups, cod-liver oil and other medicines contribute to this state, but frequently it is not so. The stopping of mouth medication and regular meals, and the administration of milk alone or with some additional concentrated food such as beef extracts will sometimes ameliorate the difficulty. Gavage also when it can be suitably adopted will be found an excellent plan for overcoming this trouble. From six to eight ounces of a mixture of beef extract, milk and a little whisky or wine may be injected through the stomach tube twice, three or four times a day. When the pharynx is very sensitive, a little of a two per cent. solution of cocaine may be projected into the pharynx previously. Among the medicinal agents used for stomachics, compound tincture of cinchona, gentian or diluted hydrochloric acid or hydrastine or small doses of Fowler's solution alone or in tincture of wormwood are often useful. When the patient eats inordinately by force of will, the stomach may soon become deranged. Sometimes a mental disgust for food in general may be overcome by ordering just one or two articles of diet, such as boiled potatoes and lettuce, boiled spinach or turnip, always selecting in such cases articles which are really coarse and nonessential. The diet, however, for nearly all cases should be essentially a nitrogenized one. Animal food in phthisis pulmonalis is the essential food. The stuffing process, however, is to be carefully avoided in all cases, especially when there is much sepsis going on. Raw meat and eggs are excellent but should not be continued too long at a time without change lest a positive disgust be engendered in the patient.

Climate.—There is no doubt of the efficacy of a suitable climate for the majority of cases of phthisis pulmonalis. The potency of sunlight on animal metabolism, the effects of the actinic rays of the sun, so to speak, although inexplicable, are nevertheless very obvious. There is probably no principle of therapy which alone can compare in value to a favorable sunshine environment—for all cases excepting, perhaps, those of primary tubercular origin. We may hope that at no distant day the art of man may discover (as did ROENTGEN with light) the subtle chemical elements of the sun's rays. The question of climate involves, of course, altitude, heat, cold, winds, relative moisture and dryness, variability and stability of weather, telluric influences, and domiciliary conditions. The location must be carefully suited to the case. To generalize, it may be stated that moist warm climates are usually suited to laryngeal cases, and to cases in which the pulmonary adenoid tissue and bronchial tubes are principally involved, while altitude with dryness, whether warm or cold, is better for suppurating-caseating cases. Dry, dusty locations are not as a rule suited to laryngeal phthisis, neither are very warm moist locations of low altitude suitable for asthenic advanced cases. Pluero-pneumonias, without much effusion and without too extensive adhesions, usually do well at pretty good altitudes.

Specific.—For many years the energies of the profession have been directed toward the discovery of a specific cure of phthisis pulmonalis, and since the discovery by KOCH of the tubercular bacillus a new impetus to such efforts has arisen, so that from time to time different agents have been brought forward, the history of which you are all familiar with. The chief aim of all has been the destruction of the essential cause—the tubercle bacilli. Coincidently, as you know, pathologic and bacteriologic science has developed new biologic discoveries on the lines of immunity—defensive proteids, phagocytosis, et cetera—all of which have had an influence or bearing on the therapy of phthisis pulmonalis.

Time will not permit of discoursing at length on this part of our subject and therefore I shall mention only a few of these agents. The tuberculin (old and new) of Koch and the tuberculocidin of Martin and Klebs have been quite extensively employed with varying results. Maragliana's serum, Paquin's (horse) antitubercle serum, de Schweinitz' serum, Fischer's serum, Hirschfelder's oxytuberculin, and Pasteur's and Marmoreck's antistreptococcic serum have each produced some good results but have not yet given universal satisfaction. In 1890 Berheim and Bertin attempted the transfusion of goat's blood in the treatment of tuberculosis, and in 1891 Coupard and Saint Hilaire used dog serum for intratracheal injections. Concerning the latter agent I am not aware that anyone had used it as a hypodermatic injection excepting myself. Doctor Charles McClintock, of Detroit, has kindly prepared for me from time to time dog serum and goat serum, which I have used in a pure form and also iodinized. The first specimens which I used were taken from large dogs which had been previously injected with formate of sodium. I could observe no difference, however, in effect between the two sorts. I have used this serum in about ten cases, both pure and iodinized with good results in three of the cases. I hope to publish in the near future the observations made upon its use when a sufficient number of data can be acquired, at which time Doctor McClintock will probably publish his method of preparation. The general result of serotherapy for tuberculosis, however, has not up to this time been highly satisfactory. It is well summed up by Doctor Stubbert, of Liberty, New York, who says, in a recent paper, "I wish to place myself distinctly on record as not being as yet a thorough convert to sero-therapy in the treatment of tuberculosis. I appear before you simply as an investigator of this subject. I believe that we are investigating along the right line, that the results of serum treatment are as a whole more satisfactory than treatment by any one drug, but as yet we have found no specific for this dread disease."

Theoretically, the use of antistreptococcic serums would seem especially applicable to conditions of mixed infections such as is supposed rightly to exist in phthisis pulmonalis, but its effects have been thus far disappointing. Many chemical agents have been employed hypodermically for the specific treatment of this disease. Among them may be mentioned tannic acid, several of the essential oils—gaultheria, anise, cloves, and cassia, nuclein, cantharidin, chloride of zinc, sulphate of copper, iodine, chloride of gold and sodium, formate of sodium and ammonia. The last four were used by Doctor Gibbes and myself in many cases, the iodine and gold with many good results. Iodine especially, used hypodermically, is very useful in cases of broncho-pulmonitis before there is too much caseation. The great objection to its use arises from the painfulness of the injections to the patients. On this account it is difficult to persuade them to continue the treatment for the necessary length of time. The pain, however, is much mitigated by mixing the iodine with sterilized beef bouillon or dog serum. The dose of the dog serum should be from twenty to sixty minims.

Symptomatic.—It is unnecessary to take up your time with a discussion of this branch of treatment. Suffice it to say that strychnia, phosphorus, salicin, salol, phenacetin, or acetanilid, and codia are very important agents. For the control of diarrhea, there is nothing better than bismuth in large doses, and for severe cases, nitrate of silver. Cod-liver oil and creasote should be used with caution. When the temperature is up much of the time from sepsis, I have found guaiacol, in five to ten minim doses, very beneficial. Creasote, guaiacol, iodine and oil of cloves may be administered with better effects in milk or beef tea. Oil of cloves, first recommended by DOCTOR E. F. INGALLS, is a very useful agent when intestinal fermentation exists, besides its having a selective action on the bronchial mucous membrane.

Inhalant.—The inhalant treatment should be adopted with great care. In cases of acute or subacute activity rest and quiet of the respiration is a great desideratum, therefore no extra exercise of respiration should be encouraged. Indeed the greatest inactivity possible should be enjoined. Very often it is the failure of this precaution which furnishes so many disastrous examples of the removal of patients to mountainous districts. The inhalation of chlorine gas—specifically considered—is probably the most potent of anything. Next may be ranked nitrogen gas. Oxygen is very useful also, especially in cases wherein the pulmonary capacity is seriously crippled. Iodoform, creasote, oil of turpentine, creolin, carbolic acid and solution of bichloride of mercury are each very useful. They may be inhaled in the form of spray from a suitable apparatus. A face shield should always be used to insure a thorough conveyance to the lower air passages. These inhalations are mostly useful, however, when there is caseation or suppuration. It may be unnecessary to add that in cases of hemorrhagic phthisis, inhalations may be contraindicated because of the possibility of inducing hemoptysis. For troublesome dry cough, inhalations of chloroform or ether and sometimes an alcoholic solution of menthol give prompt relief and are superior to the administration of cough syrups.

Surgical.—In this era of surgery great things might be expected from the surgery of the lungs. Such thoughts are not by any means new, for fifty years ago such feats were once in a while attempted. But few of us in this country have invaded the pulmonary organs, and the results have been sad to contemplate. Yet much has been accomplished in invading the pleural cavity. In many cases of phthisis pulmonalis resulting from pleuro-pneumonia—and they number many (I should say ten per cent.)—a judiciously made thoracotomy will save the life of the patient. Time will not permit of a discussion of the details. Suffice it to say, that the excision of a piece of rib and the insertion of a drainage tube will often give very gratifying results. Unfortunately, however, if the pleural membrane has not suppurated, nor been subject to adhesions, this operation will be disastrous by inducing a vicious double pleuritis as a rule. In cases of empyema complicating phthisis, of course, there can be no question as to the proper course to pursue. The pneumatic cabinet is often a useful adjuvant after these operations by assisting in the expansion of the semicollapsed lung. Lately, as you know, DOCTOR MURPHY, of Chicago, has introduced a new method of treatment for cases of phthisis pulmonalis which are essentially localized chronic broncho- or pleuro-pneumonias. It consists in injecting through a fine canula nitrogen gas, the effect of which is to produce, slowly, collapse of the lung, and thus place the organ in the condition of nearly absolute rest. I have applied it in three cases only, in two of which we were unsuccessful in introducing the proper amount of gas. I shall soon use it in two other cases. I think the plan will prove efficacious in some of that large class of cases which are essentially chronic broncho-pulmonitis.

THE NATURE AND TREATMENT OF ACCIDENTS OCCURRING IN CONNECTION WITH ELECTRICITY.*

By E. S. SHERRILL, M. D., Detroit, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Several months ago I reported to the association two accidents to employes of the Public Lighting Commission, and in a brief way called attention to the need in certain cases of electric shock of the faithful employment of artificial respiration. The purpose of this paper is to consider more carefully *the nature and treatment of accidents occurring in connection with electricity* with a reference to recent literature in this connection.

These are accidents—

(1) From artificially produced commercial electricity, and

(2) From natural electricity or lightning.

The accidents may be classed again as—

(1) Those arising from contact with an electrical current whether artificial or natural, and

(2) Those from a more remote effect not connected with actual contact.

Then, again, in considering commercial currents we find—

(1) The direct current, of which the Edison is an example.

(2) The alternating current, such as the Public Lighting Commission distributes. This is the more dangerous current. When this current is used for interior lighting it is modified and made weaker by a device called a converter.

It is a convenient time to refresh our memory concerning the meaning of several of the technical terms used in referring to electrical currents.

(1) The *ohm* is the resistance offered to an electrical current by a column of mercury one square millimetre in section and 106.3 centimetres long.

(2) An *ampere* is the strength of current which will transfer 1.1181 milligrams of silver per second between electrodes of pure silver immersed in an aqueous twenty to thirty per cent. of pure nitrate of silver.

(3) A *volt* is the electromotive force which will drive an ampere through an ohm.

The accidents from contact differ, and people are differently affected by currents of the same strength. It has been observed that death may be occasioned in either of two ways: (1) by actual lesion or destruction of tissue; and (2) by arrest of respiration producing asphyxia. The nonfatal cases comprise those in which there is shock, more or less severe, with burning of tissues at the point of entrance and exit of the current. The current may enter at a single point and leave at two points.

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* Read before the Detroit Medical and Library Association.

The effects from the standpoint of lesion of the electrical current in different cases may be summarized as follows:

(1) In fatal lightning stroke punctate hemorrhages in various organs have been found, and even meningeal and intermeningeal hemorrhages of considerable size.

(2) In fatal shock from commercial currents few autopsies have been reported. The blood is usually found fluid and the viscera congested. Small hemorrhages of the serous membranes are frequent. **Peterson** thinks there are no pathognomonic signs of death by electricity, but that it divides and disarranges the fine molecular structure of the body. In both these classes there will usually be found the scarred tissue marking the point of contact. Nonfatal cases may be characterized by burns of decided severity. Other effects are noted in those who have suffered electric shock. From lightning stroke there is a period of unconsciousness, followed by mental depression or excitement. The respiration is feeble, the pulse slow and small, the skin cool, and the muscular strength diminished. There may be suppression of urine, nausea, loss of appetite, and diarrhea. The menses may be suppressed in women. Vision is often affected. There are oftentimes symptoms due to the hemorrhages or to inflammation of the internal organs, but the effect is not usually permanent. The nervous symptoms are varied: anesthesia; paresis in definite regions; pain in the affected region; hemiplegia, due probably to an intracerebral lesion; hysteria; paralysis, usually of short duration, but which may be permanent.

Jetum gives the following classification of nonfatal cases:

(1) The current gives rise to no protracted symptoms except burns and their consequences.

(2) Cases followed by more or less protracted symptoms, chiefly of a nervous character.

The first class may be further subdivided:

(a) Those in which the current produces no lasting symptoms of any kind.

(b) Those in which the current itself apparently produces no symptoms but gives rise to a fall which may cause more or less injury.

(c) Those in which more or less severe burns are produced.

It is of interest to consider the strength of the currents which produce death. Experiments were reported at the Medical Congress at Rome. The experiments had been made with animals. The alternating current was employed. Death resulted through the sudden stopping of respiration which caused asphyxia. The heart's action continued for about two minutes. With a current of one thousand five hundred to two thousand volts the killing of the animals was not sure and easy. The more highly organized the greater the danger from electric shock. **Knapp** reports the case of an electrical engineer who received a shock of one thousand volts from an alternating current without injury. **Holman**, of the Massachusetts Institute of Technology, says the limit of voltage which causes death apparently lies between five hundred and two thousand. **Tesla** has called attention to the popular inaccuracy in speaking of the strength of currents in terms of voltage alone. Reference should also be made to amperage.

Voltage is analogous to pressure and amperage to size of stream in hydraulics. **Tesla** has shown by personal tests that an alternating current of feeble amperage vibrating rapidly (one-half million times a second) is harmless even when the voltage is high, he having taken a current of a voltage of half a million. He says his experiment is analogous to shooting a needle at great speed through the muscles of the arm. The arc lights in the city are supplied by a current which in the mains has amperage of five to nine and voltage of one thousand to two thousand, depending upon the number of lamps used.

Before passing to the consideration of the treatment of the accidents it is important to speak of the harmful effects produced upon vision by very bright arc lights and to mention the experience of some operators with the x-ray apparatus. You will recall from your reading of medical journals that several suits for malpractice have resulted from this class of photography. The later reports are that by proper plates this danger of harm has been largely overcome. It is worthy of note, while speaking of this subject, that the electrical journals record very interesting results from the x-ray treatment of certain joint and pulmonary affections. The good effect is attributed to a destruction of disease germs by electrolysis.

Having thus spoken of the nature of these accidents let us consider the treatment.

(1) *Prophylactic.*—There is need of care on the part of those employed to work about electrical machinery and in connection with electric lighting plants. The oft-repeated remark—"I didn't know it was loaded"—is likely to have a companion expression—"I supposed the current was off." A large majority of the accidents which befall trimmers arise because of disregard of simple precautions, such for instance as failure to wear suitable gloves. In some places employes wear a sort of harness which holds flexible strips of copper insulated and extending from the hands up the arms, over the shoulders and down the legs to the feet. Wiring and other departments of electrical equipment should be in the hands of skillful workmen. In thunder storms trees in open fields are to be avoided. In the house during severe thunder storms it is well to occupy a room free from mantles and stoves.

(2) *Medical and Surgical.*—The cases of asphyxiation should never be given up as fatal until the effect of artificial respiration has been tried. *The Electrical World* of July 27, 1895, contains a supplement giving "Practical Suggestions for Resuscitation from Apparent Death from Accidental Electric Shock," by **Doctor Goelet**. This is about as satisfactory an outline of procedure as has been published and may be summarized as follows:

(1) Remove the body at once from the circuit by breaking contact with the conductors. This may be accomplished by using a dry stick of wood, which is a nonconductor, to roll the body to one side or to brush aside a wire. A piece of dry clothing may be used. Rubber gloves are the best protection.

(2) Proceed with **Sylvester's** method of artificial respiration, placing a rolled coat under the patient's shoulders. Efforts to resuscitate should be kept up for an hour and the maneuvers of artificial respiration should be repeated at least sixteen times per minute.

(3) The tongue should be grasped and when the arms are extended above the head the tongue should be drawn out. When the chest is compressed by

the folding back of the arms and by pressure upon it the tongue should be allowed to recede. This frees the throat and excites a reflex irritation from contact with the teeth.

(4) The physician or surgeon should bring to his aid the strong reflex influence caused by forcible stretching of the sphincter ani muscle.

(5) Oxygen gas should be administered through a cone of paper improvised for the occasion.

This much is given in the supplement referred to. The patient may develop pronounced nervous disturbances such as spasms, violent resistance with attempts to bite or otherwise harm those in attendance. These symptoms and the pain of the burns may be relieved by hypodermic use of morphine. Continued depression may call for the use of sulphate of strychnia hypodermatically. There may be extensive sloughing from burns and this will call for the dressings usually employed in such cases. A considerable period of rest may be necessary for cases with a predominance of nervous symptoms to give proper time for the repair of the more delicate structures of the nervous system.

REFERENCES:

Johnson's "*Annual.*"
The Scientific American.
The Electrical World, New York.
The Electrician, London.

270 Woodward Avenue.

A CASE OF ULCERATIVE DISEASE OF THE BLADDER.*

By GEORGE K. JOHNSON, M. D., Grand Rapids, Michigan.

[Published in The Physician and Surgeon exclusively]

The lady, whose illness is here considered, is forty years old, married and the mother of two children, one six and the other sixteen years of age. The family history is, on the fathers's side, without a flaw. In the maternal line so much cannot be said, since the grandmother and an aunt died of cancer of the breast. There is no reason to suspect tubercular tendencies.

Eight or nine years ago the patient was severely ill in Colorado with what a very good doctor, whom I knew, called acute cystitis. She recovered but has ever since been subject to pains and discomforts in the pelvic region. Menstruation has all along been regular until recently, except that during 1895 and 1896 it was accompanied with pain and the expulsion of membranous exudates. During the recent months of severe illness it was suspended for two or three periods, but has now been restored. Six years ago she had a recurrence of the urinary and pelvic troubles, similar to those of two years previously in Colorado, but of less severity. She has not been long free from such discomforts since that time. Frequent desire to urinate, with pain relieved only by emptying the bladder, has been the most constant symptom. Several months ago this condition became urgent, the desire to urinate more frequent and more imperative, and the precedent pain more and more distressing. From first to last this pain has been relieved by urination. But this lull has been shorter and shorter in duration, lasting only until the bladder was partially refilled. There was steady increase in the suffering, and at last the general health gave way so much as to cause alarm. Weakness, extreme nervousness and a constant temperature of about 100° to 101° were added to the symptoms already noted. Finally in May last the patient was taken to Chicago and confided to a very reputable gynecologist. He, we may assume, did not locate the lesion where it was ultimately found to be; for he proceeded to excise two small hemorrhoidal tumors, to curette the womb and to perform a perineorrhaphy. The injury to the perineum was so slight that no importance had been attached to it here, but he seems to have thought it a causative factor in the case. But no relief whatever resulted. Then, after an interval of ten days, he performed an Alexander to rectify retroversion. This retroversion was moderate in extent, was without adhesion and had long existed. However, improvement did not follow. On the contrary matters grew steadily worse. A specialist in urinary diseases was then called in. The bladder was explored with a cystoscope, and considerable vascularity of the mucous membrane discovered. The urethra was dilated and the bladder treated with medicated douches, but these only intensified the suffering. At last the urinologist made a diagnosis of a tuberculous and suppurating left kidney, and the patient was advised to go to some health resort or to return home. She did both, but on reaching home about the first of August last, after two or three weeks at a resort, her condition was serious. The charge of the case then again fell to me in association with DOCTOR BOISE. She was now bedridden, her sufferings, of the kind already noted, were great. The temperature from that time on for about twelve days ranged from 99° to 105.5°. After about the 22d of August it never rose above 99°. The urine contaimed considerable pus. This had been noted in the Chicago hospital. There were loss of appetite, sleeplessness and growing weakness. But the dominant symptoms were the frequency of urination and the great pain that preceded it. This occurred at intervals of fifteen to forty minutes. For many days the irresistible call would come thirty or forty-five times during the twenty-four hours, as shown by the chart. At night, if the patient could be made to sleep, the cystic tenesmus went on, and the urine escaped without waking the patient.

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*Read before the Grand Rapids Academy of Medicine.

The question of diagnosis puzzled us here as it had puzzled and baffled the Chicago doctors. What and where was the lesion? We felt that this question must be settled before any rational or hopeful measures of relief could be taken. My own view, and I believe that of DOCTOR BOISE also, came to be that the lesion was in the bladder, and that nothing but an opening into that viscus through the vagina could give relief.

Having seen two articles by DOCTOR M. L. HARRIS, of Chicago, in *The American Journal of the Medical Sciences*, in which he explained a new device by which urine may be taken separately from each ureter and thus serve an important diagnostic purpose, he was sent for. His instrument is very ingenious and it may, I think, in the hands of an expert, do important diagnostic work. He took urine from the left ureter and found it normal and free from pus. He failed to get urine or pus or any other fluid from the right ureter. He decided that that kidney had lost its function, that it was atrophied and useless, but not otherwise diseased. Further and later examination satisfied us that this atrophy and loss of function did exist. Assuming this to be proved and that no pus or morbid product came from the kidneys, the conclusion was reached that the kidneys were not in fault. Thus the problem of diagnosis was narrowed and simplified.

But the friends, now much alarmed, were desirous that nothing should be left undone, and it was suggested that DOCTOR FENGER, of Chicago, should be asked to see the case. He came. The patient, then in hospital, was anesthetized and thoroughly examined by all known methods and expedients. The doctor's conclusion was that the bladder was the seat of the lesion. But to demonstrate what, so far, was only inference or opinion, he proposed and made a suprabubic incision into the bladder. Then we saw plainly the diseased mucous membrane, purplish red, tumefied and ulcerated. To this he applied a Paquelin cautery and dusted with iodoform. Then that the urine might not pass over and press upon this diseased surface, he made an opening from the vagina into the bladder. This was done on the 5th of October, last month. From that time on the urine came through the vaginal opening, and none through the urethra. The relief was immediate and complete. There was for a considerable time no return of the distressing symptoms. Appetite and sleep became good and general restoration began. But at the end of about three weeks a little urine began to come through the urethra, with some return of the old distress. Three or four days later no urine came through the vesico-vaginal opening, but all of it via the urethra. The pains and the old troubles began to threaten, but were not yet severe.

On examination the vaginal incision was found firmly closed. The sutures Doctor Fenger had used to keep the incision from closing were firmly embeded in the tisues, but had not prevented the closure. The incision was now reopened and considerably enlarged, and so sutured as, if possible, to prevent reclosure. This was done on the 2d of this month, twenty-six days ago, and twenty-six days also after the first incision. Since then there has not been the slightest pain or untoward symptom. No urine escapes through the urethra. Temperature has been all the time normal, and the general health is becoming firm and good. There is now very little pus in the urine, and no other morbid product. The only discomfort or annoyance is the constant escape of urine through the vagina. It is now our purpose to keep the fistula open for an indefinite time, hoping thereby to exempt the patient from suffering and to allow the complete restoration of the general health. And further, we are not without hope that by thus relieving the local lesion from constant irritation a process of repair may be established.

P. S.—March 17, 1899: There has been no return of the symptoms. The restoration of the general health is complete. The urine still escapes through the vaginal opening.

ORBITAL CELLULITIS.*

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In introducing the subject of inflammation of the connective tissue of the orbit I do so trusting that the ophthalmologists will deal leniently with me for presuming to enter upon their special field.

For several reasons these cases are of the greatest interest to the general practitioner. He is the one most likely to see them first. They frequently present great difficulty in the way of diagnosis. They are extremely rare, being seldom met with even in special practice. To be forewarned is to be forearmed, and thus the fact of having our attention called to the trouble may prevent some of us from being driven to an erroneous diagnosis and prognosis, the correction of which can only cause us confusion and annoyance.

*Read before the Detroit Medical and Library Association.

The proximity of the tissues of the orbital cavity to the brain and the vascular connection with the other orbit, make any inflammation of these parts most momentous, and an early diagnosis of importance both as regards the possible preservation of sight and even life itself. To one on the lookout for such a condition the diagnosis is not usually difficult. For a description of the disease I am much indebted to an article on the subject by DOCTOR GEORGE C. HARLAN, of Philadelphia, in the "Reference Handbook of Medical Sciences." In the majority of instances orbital cellulitis is of traumatic origin. In other instances it is a manifestation of a pyemic condition. It may follow a boil or carbuncle on the face or facial erysipelas. Its starting point may be an inflammation of the antrum caused by decayed teeth, or an injury to the alveolar processes while extracting teeth. Or, it may be the result of metastasis in puerperal fever, phlebitis, purulent meningitis, typhoid fever, scarlet fever, diphtheria, et cetera; and, in addition, it is generally admitted that in very delicate children it may occur idiopathically.

The symptoms of the disease are great swelling and redness of the lids, particularly the upper, which has an erysipelatous appearance; pain, often very severe, depending on the amount of pressure from the swollen lid, and which is increased by pressure backward from without and which radiates along the branches of the fifth nerve; exophthalmus, the eye being protruded directly forward and all its movements limited; a congested conjunctiva rapidly becoming chemosed; high fever with rigors when pus is forming, some few cases ending in resolution, but the formation of pus being the rule. The disease is nearly always acute, but chronic cases are on record with no decided symptoms except the exophthalmus. The pus escaped only after months or years.

In diagnosis there seems to be only two conditions with which we are liable to confound orbital cellulitis. These are periostitis of the orbital walls and orbital growths. Periostitis can be diagnosed by its slower onset and by the finding of a tender spot in passing the finger as far back as possible and pressing against the wall. At the same time in periostitis the eyeball is not usually protruded directly forward, because the inflammation of the cellular tissue is not likely to be general, so the eyeball may be pushed in any direction according to the position of the local swelling. The above fact is also true of tumors and, furthermore, they can often be felt and do not run the acute course a cellulitis usually does. However, to illustrate how difficult the diagnosis often is, HARLAN cites the case of MARSHAL RADEZKY, of Milan, to whom, after he had been suffering from exophthalmus for three months, the emperor sent PROFESSOR JAEGER. JAEGER reported scirrhus of the soft parts, which would probably be rapidly fatal. The marshal refused operation and not long afterward, under homeopathic treatment, there was a discharge of pus and the return of the eye to its normal position.

As to prognosis: The disease is a dangerous one not only to sight but to life. It is true that rarely cases run a mild course for a few days and end in resolution. In many instances, if the individual recover from the cellulitis, the eye or eyes are found to be blind from injury to the optic nerve or retina; or, perhaps, the cornea has sloughed off from the dense chemosis, or at best the movements of the eye may be much restricted from injury or atrophy, or paralysis of external muscles or parts. The inflammation may extend directly to the meninges and so rapidly cause death, or a thrombosis of the ophthalmic vein may extend to the brain sinuses, in which case sudden exophthalmus of the other eye will occur as a precursor of death.

Not very much offers by way of treatment, but still considerable can be done. We have anodynes to relieve pain and hot applications to hasten suppuration. But the treatment is mainly surgical, and consists in the evacuation of the pus as soon as formed and incisions through the skin or mucous membrane to relieve tension and hasten exit of pus.

I beg to report the following case, which I think is of interest, illustrating as it does how extremely vicious this form of inflammation may become:

I was called to see this case in the evening of January 20, 1898. The parents, who were strangers to me, said the patient, a little girl of seven years, had been suffering from a stye, to which she was subject, on the right eyelid. She had been out and about all day, in the afternoon having gone, herself, to the drug store for some Pond's extract with which to bathe her eye. In the evening the little one became very feverish and nervous, complaining of pain in the eye, the lid of which had commenced to swell very much. They told me that the swelling did not alarm them particularly because she had had several such attacks. The child was lying on her back with her eyes closed. The right eyelid was red and swollen. Pulse very rapid; temperature 105°. She was in a condition of most extreme nervous tension, accompanied by twitchings and rigors. She made no complaint, and it was with difficulty she could be induced to answer even yes or no. No exophthalmus was observed at this time and the conjunctiva was but slightly congested.

On account of the previous history of similar swellings, I summed up the case as one of cellulitis of the eyelid in a very susceptible and nervous child. I directed that the lid be washed with hot water, and left some phenacetin for the fever and a bromide mixture to control the nervous excitement.

During the night the fever and the nervous symptoms became so intense that the parents, in great anxiety, summoned a physician in the neighborhood. He prescribed an antipyretic and sedative mixture and early next morning I was again telephoned for. At this time the serious nature of the trouble was at once apparent, and the whole aspect of the case was grave in the extreme. During the night the left eye had become involved; both upper lids were enormously swollen and reddened; the right lid was almost purple and brawny. The malady had progressed so rapidly that the child was now almost in a condition of coma. The temperature was the same as on the preceding night. The exophthalmus even at this time was not so marked as would be expected, but was most pronounced in the right eye, and in this eye the chemosis and swelling was most intense. I thought I could detect fluctuation, and made an incision through the eyelid, deep along the roof of the orbit, in the hope of liberating some pus, or at least of relieving the tension, which appeared to threaten the integrity of the cornea. A small amount of pus followed together with a free flow of blood. I requested that Doctor Jennings be asked to see the case, and he was telephoned for. Doctor Jennings, having gone carefully into the case, gave it as his opinion that the condition was hopeless; his reasons being the amount of meningeal involvement as shown by the rapid rvasion of the other eye and the comatose and rapidly failing condition of the child. The prognosis proved correct. An hour afterward the little one began having convulsions and died at 5 o'clock that afternoon, having been ill less than twenty-four hours.

I am not sure in this case whether I had first an orbital cellulitis causing thrombosis of the orbital vein and extending to the cavernous sinus, or whether the stye first caused a suppurative phlebitis of the ophthalmic vein, which in turn caused the cellulitis.

THE INFLUENCE OF PARENTAL SYPHILIS ON THE OFFSPRING.*

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This is a serious and practical question to us all and should merit our earnest attention. I have been perhaps a little influenced in my desire to present this subject for discussion by the pitiable cases it is my lot to come in contact with in the care of the babies in our Children's Free Hospital. To take up the question of hereditary syphilis as a whole would be to transgress upon more time than has been allotted and we must limit ourselves to but one phase, its etiology, perhaps, however, the most important phase; as to know the cause is our most proficient weapon in the eradication of the disease. So also must we deal with but one phase of infantile syphilis, that which is truly inherited, excluding all those cases acquired in many ways after birth, as in nursing, feeding, vaccination, circumcision, et cetera, as well as those acquired during parturition by contact with a recent disease in the parturient canal. The lesions may not be present at the time of birth, be truly congenital, but they must manifest themselves within a reasonable time, a few months thereafter.

Syphilis is a destructive agent, inflicting various degrees of vital injury, even to death. The exact nature of the virus is still unknown, though, reasoning by analogy, it is supposed to be a toxin dependent upon a microörganism not yet isolated. Upon the virulence of the poison and the surrounding conditions depend the results. When all-powerful, sterility ensues. Then, again, abortions take place, perhaps within six weeks, possibly three months; then, again, as the disease becomes less virulent and the mother's condition grows more vigorous, a full-term child is born, but, if not dead, diseased. Under the most favorable circumstances a healthy child is delivered. Fortunately, the diseased child is but short-lived, death resulting from the profound general cachexia or from intervening gastro-intestinal disturbances, dependent upon visceral lesions; and even in those who are born with less pronounced symptoms there is a weakened constitution, a dyscrasia indescribable, but with which you are all so familiar.

Syphilis cannot generate *de novo*. Either by direct contact, by acquirement, or indirectly by inheritance, it passes from one individual to another. With the former we have nothing to do. And so in the consideration of the influence of the diseased parent or parents upon the offspring we naturally turn first to the health-history of the father. He alone is syphilitic and is free of all possibility of transmiting by external sources the disease to the mother. The natural secretions of the body, unless contaminated with the blood or with discharges from diseased lesions, are incapable of transmitting syphilis. Under such circumstances can syphilis be transmitted through the diseased spermatozoa to the impregnated ovum? Even to this day the question cannot be affirmatively answered, some authors denying the possibility of such a transmission without the intermediate infection of the mother, a fact which seems to be contradicted by the clinical experiences of other observers, for how can we otherwise account for those unquestionably correctly reported cases wherein a woman, free from syphilis herself, bears syphilitic children to syphilitic men and healthy children to healthy men? That the child is born syphilitic there can be no question; but many writers claim that in practically all cases the mother becomes infected to a certain extent, not sufficiently to show body lesions, but sufficiently to be given an immunity from the disease in the nursing of her syphilitic offspring, which immunity is not enjoyed by the hired healthy wet nurse. And to such an extent is this true that a law has been formulated, known as COLLES', to which comparatively few exceptions are on record. The mother becomes infected by *choc en retour*, is retroinfected by the fetus syphilitic from the father, and says COLLES in his work ("Practical Observations on the Venereal Disease," London, 1837): "The following fact appears to me very deserving of notice. I have never seen nor heard of a single instance in which a syphilitic infant (although its mouth be ulcerated), suckled by its own mother, had produced ulcerations of her breasts; whereas very few instances have occurred wherein a syphilitic infant had not infected a strange hired wet nurse, and who had been previously in good health. It is a curious fact that I have never witnessed nor ever heard of an instance in which a child, deriving the infection of syphilis from its parents, has caused an ulceration in the breast of its mother." WHITE and MARTIN ("Genito-Urinary and Venereal Diseases," 1897) explain this phenomenon in the following up-to-date manner: "When a mother bears a syphilitic child, the blood freely circulating between the mother and fetus becomes a vehicle for repeated inoculation of the attenuating fluid, and the mother is rendered proof against syphilis by seven or eight months of perfected Pasteurization."

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*Read before the Detroit Academy of Medicine.

On the other hand it is offered in proof that a child may inherit the syphilis direct from the father without the mother being infected in that the mother may later become infected by her own child. On the same principle is immunity often given a child who, though born healthy from a mother infected directly during pregnancy (postconceptional syphilis), remains during life protected from the disease. This is PROFETA's law. And so we see that in some cases the placenta is not penetrable by the virus but is by the immunizing toxins and in others neither the virus nor the toxins are allowed to penetrate the placenta, and the health of the individual is not interfered with. But we are still ignorant under what circumstances first the one and then the other of these conditions takes place.

Of course in the presentation of this subject it is presumed that no other source of infection has been possible than the one inferred.

There is undoubtedly a purely paternal syphilitic inheritance, even though it can be acknowledged only by clinical facts and by analogy; and certain it is that parental lues is less severe, though more often by reason of the fact that there are more syphilitic men than women, than the maternal and decidedly less so than the mixed, that is, than that derived from both parents. It depends a good deal upon the activity of the syphilis in the father and is usually in inverse ratio to the number of years during which the father has suffered, and after four or five years the chance of infection is practically eliminated, though this is not the invariable rule, as syphilis in the offspring will develop sometimes after ten or twelve years, even when other children in the meantime have been born healthy. There are times in the health-history of syphilis when there seem to be periods of quiescence, periods during which the danger of infection is less pronounced. But a mild parental syphilis may produce a most severe disease in the child, and again the child may escape almost unharmed from the most active poison in the parent.

The more moderate influence of parental syphilis is accounted for by the fact that it is limited to that which the diseased spermatozoa bears to an impregnated ovule, while in maternal syphilis the fetus' well being is further undermined by the continual ill health of the mother amid the close relationship between maternal and fetal life. And again much depends upon the extent to which the father is beneficially influenced by treatment. The fact that a healthy child may be born of a syphilitic father the mother remaining free of the disease, is taken by those who deny the possibility of syphilitic inheritance except through the mother to mean conversely that for most cases a syphilitic child means inheritance from the mother.

Infection previous to conception, infection at the time of conception, and infection during pregnancy, or postconceptional infection, are the three forms in which maternal syphilis presents itself to us for consideration.

A mother, infected previous to conception, will almost invariably under given conditions transmit the disease to the offspring. Maternal syphilis is, as it has already been stated, decidedly more destructive in its influence than is the paternal at the same period of its life history, but is most potent in its first year, lessening gradually to the fourth or fifth. When the disease is very active the mother will show the infection by the fruit of her several pregnancies, a history of successive abortions, miscarriages, and birth of infected children.

When infection occurs at the time of conception the history of the diseased mother and that of the ovum diseased by the spermatozoa run practically a like course, but the effect is apt to be severe, as the life of the fetus is more deeply affected by the maternal depression. Here also is miscarriage or stillbirth the most likely consequence. Say WHITE and MARTIN: "Moreover, there are distinct placental lesions which aggravate the tendency to abortion and stillbirth. * * * In consequence of cell proliferation in the villi the vessels are compressed and finally obliterated, and the vascular spaces into which the villi dip often disappear. The epithelium is also thickened, and thus there is material interference with the interchange between maternal and fetal blood. If this process is generally diffused over the placenta, the fetus of course perishes. If it is partial, the fetus may live for a varying length of time, but will exhibit signs of malnutrition."

It is a curious fact but there are still those who deny the possibility of intra-uterine infection, the possibility of postconceptional syphilis being conveyed to the fetus; others admit its possibility up to a certain period of pregnancy, but the date set varies with the writers. It was formerly fixed at the seventh month; today cases on record place it at the eighth. The adherents of the former theory base their belief upon the well-known relationship between the maternal and fetal circulation which, though intimate, does not permit the transmission of the blood-corpuscles, by which alone the contagium of syphilis is carried, thus rendering the infection impossible, unless by a rupture, an embolism, a necrosis of epithelium, or some other lesion the interchange of red blood-corpuscles has been permitted and direct syphilitic infection has occurred. Again, "the question" is raised *"whether or not pathogenic microbes may be transferred from the mother to the fetus. So far as analogy is concerned different conclusions have been reached by different investigators. The latest opinion is to the effect that the microbes of pneumonia and typhoid fever, and also the bacterium coli commune pass the placenta and attack the fetus in utero."

It is also a well-known fact that fetuses of women who have suffered from variola during pregnancy have shown evidences of an attack of small-pox in utero and often, when no signs of the disease have existed at birth, have been insusceptible to vaccination in after life, having required during the existence of fetal life an immunity equivalent to vaccination.

If the infection of the mother takes place within the first month of gestation, the fruit of her pregnancy is usually a macerated fetus by the end of the fourth or fifth month; when occurring later the offspring may show the evidence of the transmission by luetic lesions or by a puny, miserable constitution without outward signs of the disease.

Under any circumstance the influence is less severe and the lesions less marked than in germinal syphilis; two-thirds of the latter, Neumann shows, perish either in utero or shortly after birth. Unless the disease in the mother is contracted early in the period of gestation the ovule impregnated by healthy spermatozoa has assumed a healthy growth which is not interfered with until it is better able to withstand the demoralizing influence of the infected mother.

When both parents are diseased at the time of conception, especially if the infection of either is of recent date, many fruitless pregnancies must come and go ere to them a healthy child is born.

To conclude we quote from Fournier's tabulation, based on the observation of five hundred cases. Among the cases of parental heredity, thirty-seven per cent. showed lesions of syphilis and twenty-eight per cent. died; of maternal heredity, eighty-four per cent. showed lesions and sixty per cent. died; of the mixed, ninety-two per cent. developed luetic lesions and sixty-eight and one-half per cent. died.

57 Fort Street West.

REPORT OF A CASE OF GUNSHOT WOUND OF THE ORBIT WITH PERFORATION OF THE EYEBALL.†

By LOUIS A. ROLLER, M. D., Grand Rapids, Michigan.

[Published in The Physician and Surgeon exclusively]

I was called at about 2 P. M., November 1, 1898, to see a colored man who was reported to be shot through the eye. Upon arriving at the hospital I found an old soldier about seventy-five years of age with his right eyeball torn open and a bullet hole through the frontal bone just above and a little to the right of the middle of the orbital ridge. His temperature at this time was 100° and

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†Read before the Grand Rapids Academy of Medicine.

pulse 80. He was reported to have been accidently shot the night before and was left outdoors, where he was found lying on the ground by DOCTOR RENWICK who was passing in that locality. His mind was quite clear, though he did not correctly answer all questions put to him.

Patient had been given a bath upon his entrance in the hospital, and I ordered him taken to the operating room, where he was placed under ether and the parts thoroughly examined. The eyelids were badly swollen and ecchymosed. The wound was found to extend through the eyeball and the roof of the orbit, and through the anterior portion of the frontal lobe of the brain. After thoroughly washing the parts with warm bichloride solution the eyeball was enucleated and all loose pieces of bone carefully removed. There were several fragments of bone from the roof of the orbit, and one quite large piece from the orbital ridge. In irrigating the wound a small amount of brain substance came away. The wound was packed with iodoform gauze and the usual dressings applied.

While the patient was under the anesthetic there was some oozing of blood from the nostrils, and also some blood vomited which had been swallowed. He rallied well from the operation. In the evening his temperature rose to 102° and pulse to 115. He was restless and complained of pain in his head. One-eighth grain of morphia was administered hypodermically, which quieted him.

The next morning the dressings were changed, and the bowels not having moved, five grains of calomel were ordered, to be followed with two ounces of salts. His temperature was 100°; pulse 82. Evening temperature 102°; pulse 96. Patient refused all nourishment except buttermilk, which was given him. He vomited twice during the day.

November 3: Temperature ranged from 100° to 101.4°; pulse 82 to 84. Patient did not sleep well the night before, and complained of severe pain in his head. His bowels moved freely three times during the day. At night he was given one-fourth grain of morphia.

November 4: Temperature ranged from 102° to 104.4°; pulse 84 to 126. Patient was somewhat delirious; picked at the bedclothes, and refused all nourishment. His bowels moved freely three times during the day.

November 5: Temperature ranged from 103.4° to 102.6°; pulse 118 to 110.

November 6: Temperature 103° to 104°; pulse 116 to 140; respiration 48 to 52. Patient was given one-thirtieth grain of strychnia, which was repeated in one-half hour.

November 7: The temperature was not taken, but the pulse rose to 176; respiration 40 to 50. He died at 5 A. M. from meningitis.

The autopsy was performed by DOCTORS THEODORE SMITH and FRACE under the directions of DOCTOR A. J. PATTERSON, coroner. When the skullcap was removed the brain was found markedly congested and several points of plastic exudate were observed on the anterior portion of the frontal lobe near the seat of injury. There was a hole through the anterior portion of the frontal lobe caused by the passage of the bullet, and a small spicula of bone was found further back in the brain substance, about an inch back of the wound. The spicula had evidently been driven in by the force of the bullet. The dura was rather firmly adherent.

The chief point of interest connected with this case is regarding the entrance and direction of the bullet. The anterior portion of the eyeball was cut, through the center of the cornea, vertically about one-half inch. The posterior portion was similarly affected, showing that the ball had passed straight through the eyeball. The lids were not injured. It would seem hardly possible for a bullet of thirty-eight calibre, as this one was said to be, to pass from before without injuring the eyelids. Yet, I believe that the ball entered from before and that the patient's head was thrown backward, and that the ball, coming from below, first passed through the eyeball and then struck the roof near the orbital ridge and was deflected out of its course so as to pass out just above the orbital ridge. I think that if the ball had entered from above it could not have taken the course that it did. I have a portion of the frontal bone removed, showing how badly the roof of the orbit was injured, also the orbital ridge.

Gunshot wounds or penetrating wounds of the orbit are always very serious, but those of the roof of the orbit are more dangerous owing to the continuity of brain substance. Berlin reports fifty-two cases of perforation of the roof of the orbit, of which forty-one proved fatal. If the brain tissue has been injured death usually results from meningitis, brain abscess or thrombosis of the longitudinal sinus.

Doctor H. D. Noyes reports a very interesting case in *The American Journal of the Medical Sciences* for July, 1882. A young man was injured by the explosion of a gun, and the breech-pin passed through his nose and disappeared. It was not known that any foreign body had entered the orbit, though some sinuses continued to discharge. Doctor Noyes saw him five months later, and on making an exploratory incision found the breech-pin which, with great difficulty, he succeeded in removing. It was four and one-half inches long by one and one-fourth inches thick, and had penetrated the roof of the orbit and the frontal lobe of the brain. There had not been any symptoms of disturbance of the brain. On the fourteenth day evidences of abscess of the brain appeared, and on enlarging the hole in the roof of the orbit pus was found outside the dura mater and in the brain substance. On the sixteenth day paralysis of the arm and leg on the opposite side appeared. The skull was trephined and pus was found in the brain at a depth of one and three-fourth inches. The patient died on the thirty-ninth day.

122 Monroe Street.

THE PHYSIOLOGICAL ACTION, EFFECT, AND THERAPEUTIC VALUE OF THE MOUNT CLEMENS MINERAL WATERS IN CHRONIC DISEASES, CLINICALLY REPORTED.*

By RICHARD LEUSCHNER, M. D., Mount Clemens, Michigan.

[Published in The Physician and Surgeon exclusively]

The subject of this paper is selected with a view of demonstrating the efficiency of the Mount Clemens mineral waters when aided by suitable dietetic, hygienic and therapeutic measures, and supported by the confidence of the patient. The curative effects of these waters have been heralded throughout the country by the numerous patients who have received lasting benefits through their administration internally and externally; but, curious as it may seem, never was there anything written since the discovery of these springs, over twenty-five years ago, concerning their nature, physiological effects, therapeutic value, and the diseases in the treatment of which they are successfully applied, until the writer, two years ago, seeing the necessity of giving to the medical profession correct information as to how these waters are most beneficially employed, launched a treatise detailing their therapeutic application. The nature of these mineral waters, their physiological action and effect, et cetera, are fully described in this little book, which has been submitted to many members of the profession for consideration. However, for the benefit of those of you who are not acquainted with the waters, and in order that they may be more fully understood, I will read extracts from several chapters of the brochure before entering upon the clinical reports of cases.

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*Read before the Wayne County (Detroit) Medical Society.

There is an amusing and interesting traditional story in connection with the discovery of these sulpho-salines. While Wiesbaden boasts of its two wild boars still boiling in the Kochbrunnen, in which they tumbled hundreds of years ago during a fierce encounter for supremacy, and flavoring this thermal water so that it reminds one of a weak bouillon, and the legend of Carlsbad, telling us of the discovery of their famous spring on the occasion of a hunting expedition of Emperor Charles IV, Mount Clemens is entitled to the claim of curing a stiff and worn-out old horse some time in the seventies. This animal having been cast off by its owner as worthless, would get under the leaking salt-tanks and take a drenching bath day after day. Was this habit adopted to get a shady place and seek shelter from the heat and flies? No one knows. But this seemingly old and decrepit quadruped became limber after a short time, and again useful to its owner. Some of the inhabitants were watching this peculiar phenomenon with keen interest. They erected an improvised bath tub between the salt-tanks and effected some cures. This marked the beginning of a new era for Mount Clemens, namely, its introduction to the world as a health resort, and with each year the patronage of the springs has increased until after over twenty-five years of uninterrupted prosperity, six great bathing establishments, with prospects of more being added in the near future, bear evidence that the Mount Clemens sulpho-salines occupy a position they really deserve—the front rank among the healing waters of civilized nations.

Mount Clemens has earned the reputation of being the Mecca for rheumatic, gouty and syphilitic patients. The waters come under the classification of the sulpho-salines, and are obtained from wells ranging in depths from eight hundred to thirteen hundred feet. The first one was drilled for the purpose of prospecting for oil and salt. The waters are very rich in mineral salts, chiefly chloride of sodium, potassium, calcium and magnesium, with iodide and bromide of magnesium in reasonable quantities, some iron, silica, alumina et cetera, and give off a limited amount of carbon dioxide as well as an abundance of the pungent odor of hydrogen sulphide. They are unusually heavy and concentrated and contain nearly two pounds of solid mineral constituents to the imperial gallon. The specific gravity is 1.155, and the mean temperature about 56° Fahrenheit. Through suitable pumping arrangements they are carried to the surface and heated for use in the bath houses.

Analytical comparisons of these waters with those of other noted saline and thermal springs, such as the Hot Springs of Arkansas and Virginia, Richfield, Sharon, Kreuznach, Oeynhausen, Wiesbaden and Aix-La-Chapelle, demonstrate the superiority of the Mount Clemens waters, as well from a chemical as from a physiological standpoint. Some of the above mentioned springs of this country and abroad claim their waters to be exceedingly effective in bringing about the metabolism of the system by stimulating the glandular secretions, hastening cell proliferation, and eliminating waste material by this process of absorption. It is with a perfect justification that they make the claim. Not alone do these waters impart to the skin the warm and mechanical stimulus of an ordinary simple water bath, but also a chemical as well as electrical one, due to their mineral ingredients, the carbonic acid and the sulphuretted hydrogen gas producing reflex modification of the changes of material in the system. On account of the high concentration of our mineral waters and our methods of administering them, we claim for Mount Clemens practically the same as is claimed for the other resorts, and in addition we emphasize the fact that the action is more pronounced and speedy and the result consequently more satisfactory.

Writers and physiologists have, for a long time, fostered the idea that no ingredients were absorbed through the skin during a bath, but this teaching is shown to be false by the latest researches of such eminent clinicians and physiologists as WITTICH, GUTTMAN, WOLKENSTEIN and CHERNSZEWSKY. They say, in substance, that the skin is permeable for watery as well as alcoholic solutions, being more energetic, however, with increased temperature. The absorption is carried on in different ways, by diffusion through the blood-vessels and lymphatic system. Patients will invariably speak of a peculiar salty taste in their mouths some hours after the completion of a bath, and recent analytical investigation and research carried out in conjunction with MR. JOHN MEYER, a chemist at Mount Clemens, upon the urine of patients having completed one week's daily application of the mineral baths with the customary massage, and who have not taken any medication whatever during the time, revealed the remarkable fact of the presence of distinct traces of iodine and bromine. This demonstrates beyond a doubt that absorption has taken place through the skin, and resorption into the general circulation. The concentration of these salines and the amount of salt substance they hold in solution are certainly not without a distinctive value. When a body is immersed in one of these mineral baths the skin separates two salt solutions of unequal concentration, one being the blood serum and the other the mineral water proper, and according to the physical law of osmosis an equalization of these two solutions will be brought about, or at least sought for. While one must admit that the skin prevents a direct transudation, an approximation of the two solutions is at least attained; the secretions of the body, blood and intercellular liquids, enter more energetically into the course toward the periphery of the body, thereby establishing an increased lymph current to those parts. This is in direct evidence that the quantity of salt held in solution in this mineral water is of very great importance regardless of the absorption. The more concentrated the mineral water for our purpose the more energetic and pronounced these phenomena will manifest themselves.

From the various methods here in vogue in the administration of these sulpho-mineral baths, for instance, the one-half, three-quarter and full strength tub-bath varying in temperature from 85° to about 102° Fahrenheit, the mineral vapor box and the mineral douche, a diversity in their effect is naturally obtained which manifests itself, however, in an acceleration of the changes of material in the system, and in facilitating the elimination of waste products. It would take up too much of your valuable time this evening to dwell more particularly and lengthy on the physiologic action of the different modes of administration. Due attention is accorded to them, however, in the subsequent presentation of the clinical reports. In offering these cases for your consideration and reflection I shall not attempt to describe the well-known pathological conditions arising from the chronicity of these various forms of disease, or discuss their questioned etiology, which is still open to further investigation and research. I will endeavor to portray to you as briefly as possible the clinical picture of each individual case, and at the same time lay before you for discussion the mode of treatment introduced from a dietetic, hygienic and balneotherapeutic standpoint.

Case I.—Some four years ago Mrs. M., aged forty-five years, of Indiana, arrived at Mount Clemens and was conveyed into one of the larger bathing establishments on a stretcher. Objectively she presented the appearance of a woman apparently high in the seventies. Her pinched and anxious face with the sallow complexion and bloodshot eyes denoted extreme pain and suffering. Her voice was scarcely audible, and the partially opened mouth and parched lips would barely move. The contracted pupil showed the evidence of the frequently given opiates, and as the examination proceeded new marks of the presence of a chronic disease manifested themselves, and when the inspection was completed a clinical picture was presented of a patient suffering from chronic articular rheumatism, associated with gout of the severest type. There was hardly a joint in the system that was not in some way affected. The ankle-, knee- and wrist-joints particularly were very much thickened and swollen, and partially ankylosed. Incomplete fixation of the shoulder and elbow and much contraction and atrophy of some of the muscles surrounding these articulations were observable. The patient was emaciated, exhibited a dry and thickly coated tongue, complained of loss of appetite, flatulency, obstinate constipation and an inability at times to void urine. Her skin presented a muddy-colored, dry and inactive appearance, and her abdomen was slightly tympanitic. Examination of the heart revealed no organic disturbance; the action, however, was somewhat slow and feeble. Pulse 64, respiration 16, temperature 98°. The urine was high-colored and scanty, gave a specific gravity of 1024, was very acid and contained an abundance of urates, free uric acid, phosphates, traces of albumin, excess of bile pigment and biliary acids with some hyaline casts and a few pus corpuscles. The handling and feeding of the patient as she lay on the bed with flexed limbs—the knees being supported from under with pillows, and the stiffened arms lying across the chest—were attended with great difficulty. Her hands showed the characteristic deformities in the shape of deflection and tortion of the digits and phalanges and enlargement of the knuckles. Patient contracted a severe cold at the world's fair in Chicago on the last day of a week's visit. Undoubtedly the unusual strain to the system incident to sight-seeing at the exposition, and her passing through the climacteric, aggravated her condition, which resulted in an attack of rheumatism. From this she never recovered, and six months later was brought to Mount Clemens for treatment. Patient related that her health had not been good for a number of years prior to her entering the menopause. Occasional rheumatic twinges, bilious attacks, flatulency, chronic constipation and a condition of general malaise accompanied with nervous headaches and hot flashes, especially at the approach of menstruation, would be of frequent occurrence. She has never been pregnant nor sustained any injury. The prognosis was necessarily very guarded.

Patient was placed in a full strength tub-bath at 96° Fahrenheit. No massage was allowed. The water was stirred by the bath attendant so that it would splash gently against the patient's body, thus stimulating the cutaneous nerves and tissues. This procedure was kept up for about fifteen minutes, and the temperature of the water gradually brought to about 98° Fahrenheit. Douches, 100° Fahrenheit, of about five minutes' duration, were applied to the knee-, ankle-, shoulder- and elbow-joints. The patient was then taken out of the tub, wrapped in a blanket and put to bed. A ten-grain dose of calomel was administered. Two hours later fifteen grains of acetate of potash and thirty grains of epsom salts were given every two hours until a thorough evacuation from the bowels was accomplished. Pain was controlled throughout the treatment with svapnia and salol, as necessity demanded. The diet consisted of broths, pea-meal gruel, light tea, bread and butter. No cold drinks or milk were allowed during meals. Mount Clemens sprudel water in reasonable quantities was ordered two hours after meals. The baths were continued in the same manner for about ten days when light massage to the back, abdomen and chest was advised, and the douching administered in the same manner. Medication consisted of acetate of potash, columbo, Mount Clemens salt, and an occasional hepatic stimulant to promote elimination. After the completion of twenty-one baths a rest of two weeks was ordered, and then another course of three weeks inaugurated, associated with more active massage of the fleshy parts. Douching and passive movements of the joints were kept up as usual. At the close of the second period of baths the patient was able to use her arms and limbs to some extent, and could turn in bed and enjoy an occasional ride in a wheel chair. A more active function of the different organs, and the clearing of the eyes, skin and tongue indicated the system's gradual return to a normal condition. Subsequent urinary analysis disclosed the disappearance of the albumin entirely, and a more normal amount of the other constituents was manifest. A mixed diet with abstemiousness as to quantity was added to the liquid rations. After a sojourn of two months at Mount Clemens the patient, armed with the necessary instructions, returned to her home. The improvement continued, and when she again arrived at Mount Clemens for a continuation of the treatment, after an absence of four months, she was able to stand with bended knees and the aid of crutches. The thickening of the joints and the atrophied and contracted muscles gradually returned to their normal condition after an interrupted treatment covering a period of eighteen months. Today the lady attends to her daily vocations, and claims to be in better health than prior to her first attack of rheumatism.

Case II.—In the fall of 1897 MRS. A., aged fifty-four years, a client of DOCTOR SHEPARD, of New Orleans, presented herself for treatment. Patient had been married but had never been pregnant. She was very tall and weighed apparently one hundred and sixty-five pounds. In the month of April, 1887, at the age of forty-four years, during menstruation, her nervous system sustained a severe shock on the occasion of a fire which destroyed her home. The menstrual flow continued incessantly until the latter part of June of the same year, when it stopped suddenly never to return again. Patient has always been anemic, of a nervous, irritable temperament, subject to irregular menstruation, leucorrhea, headache, constipation, occasional pains in shoulder and lower portion of the back, but has never been seriously ill or injured. Shortly after the cessation of the menses she was attacked with tonic and clonic spasms of the muscles of the neck and face on the left side. Gradually her head became drawn to the left, the chin elevated, and the ear nearly rested on the shoulder. At the same time the patient noticed the gradual constriction of the rectal sphincters and vagina, and pains in both sciatic nerves. As the time rolled by her physical and mental condition assumed a more serious aspect, necessitating her commitment to bed under the care of nurses. Patient stated that she only left her home four times in eight years, to go to Hot Springs for treatment. In the last two years prior to her arrival at Mount Clemens, DOCTOR SHEPARD dilated the rectal sphincters and applied electricity to the spine and neck with some degree of success. He also advised stretching or severing of the nerve, but to this operation the patient would not give her consent. She was then advised to go to Mount Clemens. Subjective and objective symptoms led to the diagnosis of chronic rheumatic neuralgia, producing torticollis, vaginismus and rectal constriction, and involving the spinal accessory and sacral plexus, superinduced by a severe shock to a weak nervous and circulatory system. Urinary analysis revealed nothing of pathological significance.

Patient received a full strength tub-bath of 96° Fahrenheit, and the customary mild massage for three weeks. A rest of ten days was then prescribed. To the second course of twenty-one baths the application of alternate hot and cold douches to the spine was added, also the daily administration of mineral vaginal injections. After another two weeks of rest patient was advised to remain north for the winter. Medications consisted of calomel at intervals, lithiated Mount Clemens aperient water before breakfast, Donovan's solution three times a day and salol and codia when necessary. The diet was of a mixed variety, moderation in the amounts especially enforced, and the drinking of milk and cold water during meals prohibited. Patient made an uninterrupted recovery, the sterno-cleido-mastoid muscle again assuming normal condition, and the torticollis, vaginismus and rectal constriction disappearing. She can now carry her head erect without being obliged to use her left hand as support, which she was compelled to do for ten years. At present the lady is residing in Mount Clemens and enjoying good health.

Case III.—MR. B. B., of Cincinnati, commenced treatment at Mount Clemens in October, 1895. Patient is a bachelor, aged fifty-five years; height, five feet and six inches; original weight, one hundred and fifty-five pounds; weight on arrival, one hundred and one pounds; occupation, tobacco merchant. From boyhood he has inclined to biliousness, headache and constipation, and has always been a quick worker, fast eater and heavy smoker. He was first taken ill with acute articular rheumatism in the year of 1886. Since then he has had recurring attacks once or twice each year, the disease growing more severe and complicated each time. The last illness made its appearance in the year 1894, and his condition would not yield to treatment, but gradually developed into a complete uselessness of nearly all the joints. No gonorrheal history. Examination of the patient presented the following symptoms: A pinched and pale face of muddy complexion, the eyeball showing a yellowish tinge; tongue thickly coated; appetite poor, bowels irregular and inclined to constipation; urine highly colored, scanty and very acid, specific gravity 1026, with biliary salts and uric acid in excess, traces of albumin and hyaline casts; voice and hearing somewhat impaired; no cardiac disturbances; bodily activity grossly impaired; severe pains on attempting to move the joints, causing grating and screeching; metacarpal, phalangeal and wrist-joints thickened and swollen; interossei of the back of the hands atrophied; feet exhibited analogous deformities; knees and elbows likewise enlarged and motion of the shoulder-, arm-, knee- and hip-joints much disturbed; extreme atrophy of the thighs, calves and also muscles of the arm. When assisted patient was able to stand but unable to walk. Diagnosis—Chronic articular rheumatism in its worst form. Prognosis—Unfavorable.

This patient, who reminded one of the ossified man or "living skeleton" exhibited in the museums, was guided throughout the treatment with extreme caution. There was no massage allowed during the treatment excepting a mild manipulation in the right hypochondriac region, simply because there was seemingly nothing to rub. The contrast of the thickened joints and the long bones covered with the skin, barely showing some of the wasted muscles, was as remarkable as it was pitiful. Nevertheless the patient was given some hope. He was immersed in a full strength tub-bath at 96° Fahrenheit for twenty minutes each day for two weeks, at the same time receiving douching of the joints with water at a temperature of 100°. After one week of rest the same style of bathing was resumed and continued for four weeks, with the customary addition of mild passive movement of the joints. Another rest of two weeks was then advised. During this six weeks of bathing and three weeks of rest patient was partaking of a well regulated mixed diet, besides drinking daily rations of diluted mineral water, occasionally swallowing an hepatic stimulant, receiving other medications at irregular intervals, and enjoying as many sun baths and as much fresh air as is possible during the winter season. His improvement was marked. The disturbed functions of the organs slowly improved, the bowels moved more regularly, the urine became more profuse, appetite and sleep became more normal, muscles began to exhibit more flesh, the skin resumed its natural color, and the patient was able to use his lower extremities to better advantage than he had since the attack in 1894. From this time on the patient gradually made an ideal recovery. He remained, all told, over six months, resting and taking baths alternately. The diet and exercise in the way of passive movements of the limbs, short walks, sun baths, plenty of fresh air, and all such instructions were carried out to assist in effecting a regular and active elimination of waste. The end of the fourth month of sojourn was very significant from the fact that perceptible alterations were going on in the joints and muscles. While the healthy function of the general system was now clearly established, and the joints were being steadily diminished in size, the effusion and proliferation about the synovia resorbed and the stiffness around the articulations showed less tenacity, and in the meantime allowed the atrophied muscles to gradually develop in strength, size and action. At the end of the twenty-fifth week patient was dismissed from the bath house. His weight had increased to one hundred and thirty pounds. His general health was excellent, and he would take daily walks from one to four miles without any discomfort. Patient has been coming to Mount Clemens each year since, and taking a course of baths covering a period of four weeks. About two months ago the writer had occasion to visit the gentleman at his home. His present weight is one hundred and forty-three pounds, and he enjoys excellent health and is in good spirits. The only visible sign left to show the remnants of his severe rheumatic condition are the deformities in the metacarpo-phalangeal joints.

Case IV.—In conclusion I wish to read to you one more report of a case which is interesting to us all, inasmuch as it shows the comparison of the curative effects of the thermal waters of Wiesbaden with the sulpho-salines of Mount Clemens. Mrs. M., of Yokohama, Japan, has been a sufferer from rheumatic arthritis for a number of years, the disease slowly crippling her joints to such an extent that she could only occasionally change the bed for the wheel chair. The lady was taken to Berlin about three years ago, and after consulting Professor von Leyden was advised to go to Wiesbaden for baths and treatment. She placed herself under the care of Hofrath Cramer, a distinguished physician of that resort. Patient remained there for two years but did not receive the desired benefit. The writer was consulted last winter concerning the advisability of transporting this patient directly from Wiesbaden to Mount Clemens. She arrived about the middle of June of this year, and at the subsequent examination disclosed the characteristic symptoms and deformities incident to the disease. After ten weeks of routine bathing, assisted with the necessary dietetic, hygienic and therapeutic measures, the patient was able to walk up and down stairs and undertake short distances on the porch of the hotel. Mrs. M. is at present sojourning in Detroit, slowly recovering the use of her joints and limbs, and is eagerly waiting to undergo another course of six weeks' treatment and bathing preparatory to her departure for the land of her adopted home.

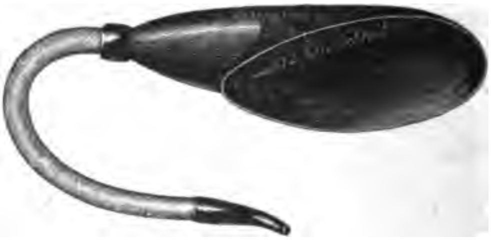
A NEW HEARING DEVICE.

By EMIL AMBERG, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively]

Herewith I suggest a new hearing device, which allows the use of a large number of sound waves. In reaching this purpose a large receiver cannot be avoided. In a great many cases it will be possible to make use of this device from a distance, that is, in church, et cetera.

Although the instrument is large in size, it is not very noticeable as it is held in the lap. Attention has also been paid to the form of the tip. Instruments of this kind have to be tried by the patients, and ought to be modified for the individual.



The illustration is taken from the instrument and is about one-eighth of its size.

32 Adams Avenue West.

THE CAUSATION AND TREATMENT OF CONSUMPTION.*

BY JOHN R. KESTELL, PH. C., M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

DURING the last twenty years tuberculosis throughout this country and Europe has increased out of all proportion to any other disease. We may well ask the cause. In my opinion the environment contingent upon what we are pleased to term "modern civilization" may be held responsible for this state of affairs. Whereas the savage answers the demand of nature by eating "to live," a large proportion of civilized men "live to eat." The latter class furnishes the vast majority of the one hundred and fifty thousand or more who die annually of consumption in the United States and Canada. Man resembles an engine, in that he may be made to burn out very rapidly by an excessive use of carbon. This may take place during the period of growth. With our activity, acute appetite, need of material and great haste in eating attendant upon this period, the stomach receives more food than it can digest, and the imperfectly prepared material is rushed into the circulation through the enlarged avenues of supply, thus forming a suitable soil for the thriving of bacilli.

The origin of the bacillus remains a mystery, though it is generally supposed to come from without. The etiology of the bacillus, however, is not under discussion; the field of operation it chooses for its destructive work is the point in hand. The latter I hold to be the result of an abnormally sensitive nervous organization, anemia, poor sanitation and generally unfavorable surroundings. These conditions pertaining, tuberculosis is the result. The disease originates largely in the alimentary canal as a digestive disturbance, sometimes producing autointoxication, which so lowers the vitality of the organism that the bacillus may thrive and multiply. As we do not have a tuberculosis of the stomach it is assumed that the hydrochloric acid has a destructive action on the tubercle bacillus, or that the motility of the stomach is such that this organ quickly empties itself into the duodenum, and in this way the bacilli attack the intestines. Duodenal indigestion results and prevents the proper conversion of the fats and starches, thus impairing absorption by the lacteals. The disease is confined to the intestinal tract until the mucous surfaces become so paralyzed as to loose their normal selective power, when poisonous products are conveyed to the blood, destroying its red corpuscles and lessening its nutritive power. The nervous system is deprived of its proper nourishment, and its natural irritability is increased. Some trifling exposure in bad weather readily overpowers such a hypersensitive nervous system, causing pulmonary congestion which the system is unable to throw off, because of the previous long drain on vitality. The constant congestion in the lungs leads to the formation of tubercular tissue, which is nothing but rudimentary lymphoid structure poorly organized which, having no nervous supply, is prone to degeneration. This tubercular tissue antedates bacillus infection and is not caused by it. This is shown by the fact that the sputum of consumptives sometimes contains bacilli and sometimes does not. Moreover, when consumptives are intelligently treated they are often cured, even after the disease has wrought considerable havoc. If the germs were the cause their action would be persistent and continuous. A diseased alimentary tract is the prime cause of tuberculosis and allied diseases. A year of chronic indigestion will so depreciate the system that it will require months of professional supervision to restore it to anything like a normal condition. I admit that in certain individuals there is lowered vitality from birth, hence an hereditary predisposition toward tuberculosis; also that in some the tissues are so highly vitalized as to resist the most flagrant abuse, while in others the physiological equilibrium is constantly tottering, finally yielding to disease. In any event careful attention should be given to certain essentials, namely, proper nourishment, an abundance of pure air, even temperature, stimulating baths, and a continual effectiveness of digestion, including assimilation and excretions.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

In my opinion the increase of tuberculosis is due largely to the excessive use of pork, veal, potatoes, white bread and sweets. Pork and veal, as we all know, are a heavy tax on the digestive tract, and the resulting toxin is from imperfect assimilation in the alimentary canal. Potatoes cooked with the jackets removed are especially injurious. The nitrates, phophates, et cetera, are dissolved in water, and we have left the starch and an organic acid which is one of the most favorite substances known for early fermentation. Too much cannot be said against the use of white breads. "The bolting cloth of the miller will become the shroud of the American people" is a saying which is most pertinent, for in the process of making the fine white flour of commerce the bran, necessary as bulk or waste food, the germ and a large part of the gluten are removed, and thus a considerable proportion of what nature intended for our use is unwisely thrown away. Excessive sweets, with the undue fermentation which they set up, are also harmful, producing derangements of the digestive apparatus.

What, then, is the proper nourishment? Primarily, foods should be selected which are rich in albumen, phosphates and fat, with a moderate amount of carbohydrates, but always of such a nature and kind as may be most easily digested and absorbed by the system. Diet should, of course, be modified according to the individual patient's digestive condition. Wherever there is not a recuperative process going on to resupply disintegration of tissue or cell life ptomains are the result, and I believe that the only hope for the patient is in the destruction of these toxic elements.

In a communication like the present, though it is based upon careful observation, it is impossible to give more than impressions and generalizations, as it is obviously impracticable to give in detail reports of any of the cases in which I have had splendid success in my efforts to alleviate conditions and eradicate the dread disease.

There are in the course of every case of tubercular consumption a number of symptoms which change with the general and local conditions to such an extent that by them we may measure the anatomical lesions and calculate the prognosis. It is my custom to pay especial attention to the hepatic system with calomel, ipecac and soda, and to strengthen the general condition of the blood with strychnine, arsenic, digitalis, iron, et cetera, as the case indicates. Then I give creasote in five drop doses in capsules, three times a day, increasing one drop daily until fifteen or twenty drops are reached, or as toleration admits. I have had none of the unpleasant results from giving this on an empty stomach, feared by some, and generally give it before meals. For some time I have used creasote plain, as favored by **Sommerbrodt**, with some modifications. If I make a combination it is with the phosphate of calcium or malt extract instead of oils. **Sommerbrodt** insists also that creasote, begun in small doses and increased gradually, observing certain rules laid down, does not often disturb digestion, but rather the opposite. Creasote acts as a preventive of fermentation and is a distinct germicide. It reduces the quantity of bronchial secretions and moderates the cough of those suffering from phthisis, especially of the fetid and mucopurulent type. I have always found in its use an improvement in appetite, increase in weight, and diminution of the cough. **Klemperer** says creasote not only has a beneficial influence upon the stomach secretions, but also promotes its motor functions. I do not hold that creosote has any action on tubercle bacilli, but it prevents the further destruction of lung tissue proper, induced by streptococci. **Guthman** has shown that 1–4000 creasote will prevent the growth of bacilli in culture soils. **Halscher**'s theory as to the favorable influence of creasote is that the guaiacol passes into the blood with the toxic albuminoids, rendering them nontoxic and assisting in their elimination. It is, therefore, rational to conclude that the drug alters the condition of the tissue in such a way as to prevent the bacilli from forming ptomains.

Iodoform has lately gained many adherents as a consequent inhibitor of the tubercular process. As to its efficacy I cannot bear testimony. I am opposed to cod-liver oil as an internal medication, as in many instances the stomach will not tolerate it without disturbance. M. E. **Chartier**, an eminent French authority, favors cod-liver oil only in torpid tuberculosis. I have found it beneficial when applied by inunction in cases of dry skin and emaciation.

I have little faith in specifics in the treatment of tuberculosis. I believe it is entirely a disease of malnutrition, as a result of defective elimination, and all therapeutic measures must be directed toward the improvement of the digestion and assimilation. Consequently I am explicit in my instructions as to diet, forbidding absolutely the use of alcohol, syrups, potatoes in any form, pork, veal, and all such dishes as are difficult of digestion and prone to fermentation. In many of these cases of alimentation I have found it beneficial to give some good diastasic extract of malt, that known as maltine proving most satisfactory for the reason that it is the only malt extract known to me which gives generous proportions of nitrogenous and phosphatic matter, with a proper proportion of carbohydrates; being made, as it is, from wheat and oats in conjunction with barley, instead of barley alone. Tonics, stimulating the nervous system and digestive organs and assisting in the reconstruction of blood and tissue, are important. Stimulating baths may be used with good results. It is, in my opinion, a mistake to overwhelm the body with frequent injections of undetermined animal serum, thereby producing either a severe reaction or possible accumulative toxemia.

In conclusion, I would suggest that physicians in general divide their investigations, spending less time on the etiology of bacteria, and more in the study of the principles governing the law of elimination, nutrition and assimilation, looking ever to those conditions which primarily promote the life of the bacilli, and ultimately end in the death of the subject.

A CASE OF BILIARY CALCULUS.*

BY RALPH H. SPENCER, M. D., GRAND RAPIDS, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

I FIRST saw the patient whose case I wish to report, during the summer of 1894. He was a man forty-five years of age, a furniture worker, having good habits and a good family history, and had enjoyed good health up to within two years of my first attendance. He was married and father of three healthy children. His symptoms were violent spasmodic pain over the hepatic and epigastric regions, labored respiration, nausea and vomiting, pulse small and hard, and the surface of the body bathed in cold perspiration. These symptoms, with a history of many previous attacks of a similar nature, led me to a prompt diagnosis of biliary colic, and morphine and atropine were administered hypodermatically, one-half grain of the former being required to give relief. At my next call,, some twelve hours later, the patient was deeply jaundiced and the cutaneous surface was covered with raised blotches or wheels, such as are seen in urticaria, these giving rise to the most intense itching over the entire body; urine scanty and heavily loaded with bile pigment; temperature slightly raised; great mental depression; the only thing that served to arouse the patient being the intense itching, which caused him to chase over his surface vainly trying to get relief by scratching. The above symptoms would gradually abate, and within a week he would so far recover as to be able to return to his work. The stools for several days would be of a gray color, usually very fetid, of pasty character, showing the absence of bile.

I had this patient under observation for a period of over four years, and was called repeatedly to relieve him, his symptoms being about as has been described, only varying in intensity. In some attacks no physician was called. They would recur at intervals varying from one month to six months. Patient was able to work between the attacks, though he never had a good digestion and was exceedingly emaciated, and so he continued up to the 24th of October last, when he had what proved to be his fatal attack, and the peculiar symptoms attending his last days is what led me to report the case.

I was called in the evening and found that the patient was having, in addition to his usual abdominal pain, severe cramps in his left leg, these being in the extensor muscles of the thigh and in the calf of leg, and so severe as to cause him to scream. His wife informed me that he had been suffering some six hours. Morphine was administered till pain was relieved. I called the following morning and found that the patient had rested fairly well but complained at times of his leg. On examination I found the muscles on front of thigh in a state of chronic spasm or cramp, and the muscles of calf contracted so that the foot was pulled into position of talipes equinus. As the patient had not urinated since the day before, I catheterized him but obtained only about two ounces of urine, an examination of which revealed no albumin. Patient gradually sank away and died in about thirty-six hours, the cramp in leg never having relaxed. A spot of ecchymosis as large as the palm of one's hand formed over the contracted thigh muscles about twelve hours before death. The last thirty-six hours the patient, though conscious, complained of but little pain, death seeming to be due to exhaustion and heart failure.

*Read before the GRAND RAPIDS ACADEMY OF MEDICINE.

I have searched the literature somewhat carefully, but thus far have found no case of gall-stone presenting the symptoms I have here narrated. It would add greatly to the interest of this report could I append the result of a post-mortem examination. The family having refused to allow an autopsy, I am unable to make such report. I have refrained from saying much about the treatment, that not being the object of the report. Suffice it to say that he had the benefit of all the supposed bile-stone solvents, and now he is dead. He would not submit to an operation, and thereby lost about the only chance he had to prolong life.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, NOVEMBER 21, 1898.

THE PRESIDENT, CHARLES DOUGLAS, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR E. L. SHERRILL read a paper entitled "The Nature and Treatment of Accidents Occurring in Connection with Electricity. (See page 116.)

DOCTOR HITCHCOCK: I have had a number of cases of accidents from electric shock. In some mechanical and surgical injury from falls had been so intermixed with the effect of the electric shock that it was difficult to separate them. Two cases had fractures of the skull from which the patients died. I am glad DOCTOR SHERRILL quotes from TESLA regarding the strength of the current TESLA's alternating currents run into the thousands of volts and may be handled with very little harm. His simile is a good one—that voltage is analogous to pressure and amperage to size of current or stream. Of course the higher the amperage the greater the physical damage. Our knowledge on this subject will increase with longer or wider use. There has been some surprising escapes from even strong currents. An eastern experimenter had passed through his hands six thousand amperage without experiencing any serious results. The effects on the nervous system will have to be studied and more investigation will have to be made before we can determine the precise value of electricity as a therapeutic agent. The effect of burns by electricity is very deceptive in character. I remember having one patient with a burn on the hand from an electric current in which the middle of the upper arm was attacked by one wire and the other just touched him at the base of the index finger. The place of contact on the hand showed a very slight burn of the scarfskin, while the other region on the arm presented the appearance as if the outer skin had been sliced out for an area of about an inch in diameter. The burn was very deceptive in character. I have seen other cases wherein the burns did not show their real significance for perhaps a week.

DOCTOR McGRAW: One point has not been touched upon in these electric cases and that is malingering. I think this whole subject is a pretty new one yet, and we will have to learn a good deal more about it than we now know.

Doctor Hislop: I had a patient three years ago who experienced contact with a live wire and burned his hand severely. The deceptive point in this case was that the burn proved to be a great deal deeper than it appeared on inspection. I treated the patient with pyrogallic acid. Curretment was employed and followed by the application of zinc ointment. The burn took a considerable time to heal, demonstrating that electricity penetrates the tissues deeply.

Doctor Delos Parker: The point in regard to carrying on artificial respiration is certainly a good one. A person who has received a shock from an electric current and is on the verge of collapse has a nervous system that is overwhelmed. In addition to the practice of artificial respiration stimulation is necessary. Three years ago I read about the great value of ammonia in restoring the nervous system from the shock occasioned by this kind of injury, and have since used it successfully. When a doctor finds a man on the street suffering from an electric shock he should have something in mind which he can employ at once, and I believe that ammonia is the most useful agent. A drachm of aromatic spirits of ammonia should be given hypodermically.

Doctor Douglas: It seems to me a dangerous procedure to throw into the veins so large a quantity of so irritating a substance.

Doctor H. O. Walker: Absorption would not take place and sloughing would follow by the formation of coagula.

STATED MEETING, NOVEMBER 28, 1898.

The Vicepresident, FREDERICK W. BOBRINS, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor F. Lydston Newman read a paper entitled "Orbital Cellulitis." (See page 121.)

Doctor Don. M. Campbell: I must compliment **Doctor Newman** on his carefully prepared paper. This subject is an important one to consider, first, because it is not a very common disease, and secondly because in a good many cases it is very important and very fatal as shown by the case reported by the doctor. In looking over the field of inflammations affecting the orbital cavity the fact is impressed upon us that we have a variety of inflammatory actions to consider, and perhaps the division which is of the most practical importance to make is laid down by the doctor, namely, between a septic process and a nonseptic one. There is a kind of orbital cellulitis which may be acute or chronic in character. In favorable cases it usually undergoes resolution. Then, again, we have the septic processes which are due to an infection. The inflammation may originate from various causes as the doctor states. The therapeutic handling of the case will depend upon whether we have a septic or nonseptic one to deal with. Another very good definition of the pathological condition is that which divides it, first, into an orbital cellulitis; secondly, inflammation of Tenon's capsule; and thirdly, inflammation of the orbital veins. The cases of orbital cellulitis pure and simple usually run a mild course. If we have an inflammation of Tenon's capsule we have a condition which is a result of rheumatic inflammation of the white fibrous tissue. If we have a very bad case of inflammation of the orbital veins, and through them of the cavernous sinuses we have a condition that is fraught with danger. Now, it is not easy to diagnose or separate an orbital cellulitis from a thrombosis of the orbital veins. There are usually some signs which may put us upon the track. In a case of pure and simple orbital cellulitis we have one side involved only. It is an unusual thing for inflammation to occur on both sides. When it does we almost invariably have a thrombosis of the orbital veins. Then, again, we have certain intraocular signs, or rather we have a thrombotic process going on in the veins. If we are able to make an ophthalmoscopic examination we find a condition of the retinal veins in which there is an enormous engorgement of these veins. Another sign which is sometimes found, although truly not always, is edema of the mastoid process. Anatomically there is a connection between the venous supply of the mastoid and the cavernous sinus. Again, the occurrences of well-marked intraocular symptoms is also very suggestive of a thrombotic process. In these cases a fatal issue comes about in a number of ways, first of all from an extension of the septic process from the orbit into the intracranial cavity, setting up a septic meningitis, and we may also have an abscess of the brain. As to the treatment of these conditions it varies, depending upon whether we have a septic process or a nonseptic one. Gouty cases respond very nicely to salicylate of sodium—fifteen grains every two hours, hot applications applied locally, and blood-letting. If the case is one of septic process of course opening of the orbital cavity, with drainage of the pathological area, is what will be called for. I had an experience in seeing several cases of orbital cellulitis, but two of them are impressed upon my mind particularly. A patient came to me suffering from traumatic septic cellulitis, and made a good recovery after the loss of the eye by enucleation. Another patient appeared at Harper Hospital last winter and the disease partook of this course: An abscess formed on the side of his cheek and when it ruptured, he not being cleanly, a septic inflammation of the orbital cavity on the left side was excited. Soon after the other side became infected, and he had also the signs of a well-marked intracranial meningitis. The point of particular interest in this case was that the man did not die of his intracranial trouble but of septic pneumonia by metastasis.

Doctor W. R. Parker: I just wish to lay stress on the diagnostic points which **Doctor Campbell** brings out. Edema of the mastoid is an important sign. I recall one case of orbital cellulitis which I saw about two years ago. It was of traumatic origin. The eye was completely destroyed and went on to general suppuration. On enucleating the eyeball it was found that the capsule of Tenon was destroyed.

Doctor J. A. MacMillan: I am interested in this paper on account of a case which I had last summer. The case was not exactly parallel to that mentioned by **Doctor Newman** but was very interesting. The history of it was somewhat like this: The patient was about sixty years of age and had been much exposed to cold. She complained of pain in the face and side of the head, and considered that the attack was one of ordinary facial neuralgia. Her condition progressed without any appreciable elevation of temperature for three or four days. At the end of the fourth day there was in the morning decided swelling and edema of one of the eyes which seemed to be especially confined to the conjunctiva of the upper lid. The eye was protruded, and pain considerable in the region. About 4 o'clock in the afternoon she became partially unconscious and in the evening she died. The measures employed in treatment seemed to have no influence on the course of the disease. There was no history of metastasis from any other organ.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, JANUAYRY 10, 1899.

THE PRESIDENT, FREDERICK W. ROBBINS, M. D., IN THE CHAIR.
REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR A. P. BIDDLE read a paper entitled "The Parental Influence of Syphilis on the Offspring." (See page 124.)

DOCTOR WYMAN: I wish to emphasize what the essayist has said of the widespread influence of the disease. We should place the danger of the disease before the community. People are interested in the prevention of scarlet fever and diphtheria, but not of syphilis. The age is ripe to give more knowledge of its frightful mortality, yet I do not know how it can be done. Experiments have been made to restrict it, but little has been done to prevent its spread. Ideas of the kind presented, if given to the people, must be deterrent.

DOCTOR CONNOR: The writer has set forth the result of studies which have been going on for a long time. The results are at first horrifying, but gradually as they become familiar they lose much of their effect. In private life we see many of these little folk come into the world without any volition on their part, many of them fade out, or else we wish that they might; and yet we have to keep our mouths shut in regard to the real cause. We are able by treatment to keep much of the force of syphilis in subjection. We do not know what results might be without the use of medicine. Here, at least, is one condition where nature does not cure alone. As to the prevention of the trouble. I hope to see the time when every venereal case will be posted in the health office. Their effects are worse than leprosy, consumption, scarlet fever and diphtheria. There is an idea in the community that syphilis is little worse than a cold and that gonorrhea is no worse. Instruction and supervision should help to change this. In the case of a physician whom I saw, alcohol, women and tobacco had almost caused blindness. When told that these must be abandoned or sight would be destroyed, patient chose to lose his sight rather than heed the warning. Both sexes should be treated alike so far as the moral question is concerned, but results to the woman who goes wrong are undoubtedly worse than to the man. If all physicians used the tenets of this. paper half of the trouble would be overcome, but doctors themselves do not entirely believe this.

DOCTOR AARON: My experience with parental syphilis has been limited, but one point of importance is to tell plainly an individual under treatment of the possibility of infection to innocent friends and associates. Carelessness is often responsible for the spread of the disease.

DOCTOR ROBBINS: In my experience with syphilis nearly all patients have had healthy children. Most patients will obey the doctor when admonished to be careful about spreading the disease. It is important to appreciate the effect of treatment of syphilis during pregnancy. Syphilitic children are born when there has been no treatment, but when treatment has been applied they are healthy.

Doctor Biddle: I had wished the discussion to bring out other points, as: How soon after a man has had syphilis is it safe to marry? Is it possible after two to five years? Can a syphilitic ever safely marry without transmitting it? I believe that in a mild case he can.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, DECEMBER 22, 1898.

The President, ROBERT H. HONNER, M. D., in the Chair.
Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Richard Leuschner, of Mount Clemens, Michigan, read a paper entitled "The Physiological Action, Effect, and Therapeutic Value of the Mount Clemens Mineral Waters in Chronic Diseases, Clinically Reported." (See page 129.)

Doctor E. B. Smith: Few persons take enough water into the system; rheumatic patients certainly do not. The essayist has forgotten one point in his paper. When patients go to Mount Clemens their systems are already saturated with salicylates. Patients should be sent to health resorts where they can be under the care of some reliable physician who will give proper treatment and look after the diet, hygiene, et cetera.

Doctor Weitz: Transmission of fluids through the skin is important. I have always believed it possible, and have taught that it can be accomplished. The doctor illustrates his ideas by citing the fine prick infection followed by a diffuse cellulitis without local abscess. The infected region should be wrapped with antiseptic bandage. Gauze soaked in strong boric acid solution is good. It controls the inflammation by destroying the germ, which it reaches through the skin.

Doctor Maire: There is no longer doubt regarding the introduction of medicines through the skin by the means of water. The absorption may be due to the irritation or rubbing of the skin during the bath. A new field of medicine may be opened up. When the stomach has become irritated by the continued administration of drugs the water treatment may be a good one to adopt.

Doctor Biddle: Physicians can get better control of their patients when they are away from home and business cares. In the watering places very large doses of mercury and iodide are given without bad results, probably due to the fact that the baths help to eliminate the drugs. By the use of electricity one can get absorption of medicines through the skin. The positive pole is saturated with the medicine and the negative one placed in water, in which the patient dips his hand. There is no question about the value of electricity in the absorption of medicines, and I can see no reason why the water treatment will not prove of value.

Doctor Kestell: The successful practitioner of the future must pay attention to elimination. Water is a good auxiliary in the treatment of disease. The great object of water, internally and externally, is to produce elimination. I should say that ninety per cent. of the people are troubled with disorders of the digestive tract. The system becomes loaded with ptomains on account of the deficient or defective elimination. With proper diet and the judicious use of drugs much good can be accomplished.

Doctor Bennett: Mount Clemens is certainly a good place for rheumatics. I have sent some pretty bad cases there and been surprised to see them return cured. Systematic treatment, regulation of diet, and change of scene assist in bringing about the cures at these bathing places.

Doctor Amberg: Hygienic treatment, regulation of diet, et cetera, has caused the fame of many of the water resorts. I do not understand why Mount Clemens mineral water is superior to any other, as analysis does not show any great difference. The surroundings of a patient are certainly factors in the treatment.

Doctor Gordon: I have sent patients to Mount Clemens with good results; also to other watering places, and the results were equally as good. The fact that the patient gets away from home, away from business cares, et cetera, favors a cure.

Doctor Mulheron: I have, up to within the past year, been rather prejudiced against water cures, owing to the fact that the grossest empiricism prevailed in some of these institutions as well as in the electric institutes. I have, during the past summer, investigated the scientific application of water and find that it can be used with surprising results. I do not believe fully in the absorptive power of the skin, particularly at the temperature the baths are given at Mount Clemens. We know that at a temperature of 70° Fahrenheit exosmosis occurs. Hot baths are good eliminative agents. If absorption is desired the temperature must be below 70° Fahrenheit. I believe that many of the so-called cases of rheumatism are really chronic lead poisoning. These get well under the hot bath (sulphur) treatment. Proper diet, hygienic surroundings, et cetera, materially assist a cure at watering places.

Doctor Patton: We know that a large number of patients take the baths and get well. The moral effect is good. People go to watering places with the intention of getting well, and this assists the physician in his work.

Doctor Groff: Plenty of water assists elimination, whether the water is endowed with medicinal virtues or not.

Doctor Leuschner: Treatment should always be directed to elimination, diet, hygiene, et cetera.

STATED MEETING, JANUARY 12, 1899.

The President, ROBERT H. HONNER, M. D., in the Chair.

Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor John R. Kestell read a paper on "The Causation and Treatment of Consumption." (See page 137.)

Doctor E. L. Shurly: There has been from time to time many ardent exponents of the dietary treatment of consumption. I presume the class of cases the doctor refers to are those of tubercular phthisis, wherein the disease primarily attacks the lungs. For my part I cannot see how excessive eating would predispose to tuberculosis. An advanced case of phthisis is practically one of septicemia and the patient dies from septic infection rather than want of proper oxygenation of the blood. I was not aware that toxins originated in the intestine; if so, there ought to be a larger per cent. of cases affecting these parts. I think we all agree that nutrition should be improved, but the great trouble is to do it. These patients have a great distaste for food of any sort, but the doctor fails to tell us how to overcome this aversion and to get our patients to take suitable nourishment. It is generally conceded that a nitrogenous diet is the best for consumptives. The question of indigestion is not taken into consideration because they take so littie food that this result is hardly to be expected. Foods that are easily assimilated should be given. I might say more but have only confined my remarks to the subject matter of the paper.

Doctor Aaron: I was much interested in the statement made by the doctor that tuberculosis seldom or never attacked the stomach. If tuberculosis originates in the intestine we ought to find a larger proportion of cases affecting these parts.

Doctor Mulheron: I have been both entertained and enlightened by the paper and discussion. No one can read a paper on this subject without a good deal of criticism as there is such a divergence of opinion on the question of consumption. Doctor Kestell's remarks on nutrition are good. We all appreciate the value of nutrition but the question is how to procure it. Nitrogenous food is certainly the food par excellence for consumptive patients. Some people by heredity have a soil for the implantation and growth of disease germs and succumb more readily to disease.

Doctor Hislop: I believe the most important factors in the causation of consumption are confinement indoors, sedentary habits, insufficient pure air, and improper and hastily eaten food, which brings about indigestion, anemia and consequent less resistance of the system to disease germs. I do not believe in the hospital treatment of these cases. They should have plenty of fresh air and active exercise.

Doctor Amberg: The doctor said in his paper that congestion of the lungs favored tuberculosis. Is it not a fact that this condition acts as a preventive to the disease?

Doctor O'Donnell: I cannot agree entirely with Doctor Hislop, as I have treated farmers for consumption and certainly a farmer's life would give every advantage of fresh air and exercise, and I have seen cases of consumption last for several years in people who confined themselves entirely indoors.

Doctor Maire: Consumption kills more than any other disease and is no respector of persons or conditions of life. The doctor's ideas of nutrition are good but the great trouble is to get these patients to take nourishment. Patients of sedentary habits should lead a more active life. Farm life is good for some patients, and will bring about good results. I have noticed that consumptives from this state who would go west would be benefitted, but on their return the trouble would increase. Consumptives should have plenty of fresh air, exercise and easily assimilated food.

Doctor Connor: I think it is generally conceded that a specific germ is one factor in the causation of tuberculosis. Why it does not affect everyone is a question to answer. I was informed by a physician who had made a very large number of postmortems, that in all those who had died of phthisis there was noticed structural change in the lymphatics, especially those about the lungs. In the treatment of this disease systematic exercise should be encouraged. Plenty of fresh air and a good diet should be obtained.

Doctor Milligan: From the remarks that have been made about fresh air, one would naturally suppose that those who had abundance of it would be immune from consumption. When I was in the Northwest a very large proportion of the Blackfeet Indians were affected, while at the same time their white brothers were coming there for the purpose of securing good health.

Doctor E. B. Smith: I have been informed that there is no consumption at Rock Springs, Wyoming, or at Portland, Oregon, excepting cases that have come there from other places.

Doctor Aaron: The reader of the paper held that malnutrition was one of the causes of tuberculosis. We all know that malnutrition and poor environment so lowers the vitality of the individual as to render him more susceptible to the bacillus. Now, the question whether the bacillus enters the system through the intestinal track or the lungs is quite important. It was supposed that when the ductus communis choledochus was closed that the bile entered the circulation through the hepatic veins into the inferior vena cava, et cetera. We know now when we tie the common bile duct that the bile passes into the lymphatics to the receptaculum chyli to the thoracic duct and into the general circulation. Why cannot the bacilli enter in some such way? The administration of creasote acts as an antiferment and antiseptic, and it is natural to assume that this destroys the bacilli in some way.

Doctor Honner: The popular idea that phthisis is preceded by a bad cold is wrong; the disease exists from the first. I believe that when we become more civilized—truly so—that this disease will be greatly decreased or eradicated.

EDITORIAL ARTICLES.

WHERE THE BLAME LIES.

We have been so thoroughly posted upon the complaints and evidence of neglect and incompetency of the War Department during and immediately following the recent Spanish war that little new has been anticipated in the report of the Investigating Commission, and yet its official character makes it valuable as a definite presentation of the real facts. While the Medical Department, which especially interests us, comes in for a share of well-merited criticism, particularly in reference to sanitary inspection and medical supplies, yet its subordinated powers and departmental relations relieve it of considerable embarrassment. In the first place it has been the judgment of the Commission that there was lacking in the general administration of the War Department, during the continuance of the war with Spain, that complete grasp of the situation which was essential to the highest efficiency and discipline of the Army. Handicapped by this inherent weakness there was also, as is pointed out in the report, a total unpreparedness of every subdepartment. Concerning the medical branch of the service it reads: "Prior to the declaration of war (April 21) no preparation for the approaching conflict had been made by the Medical Department. The number of officers was as it had been in time of peace. * * * The medical supplies on hand were only what remained at the posts of the semiannual issue of the preceding January, the several purveying depots at New York, Saint Louis, and San Francisco not having as yet received any of the medicines and stores contracted for in anticipation of the regular issue of the coming July. * * * The need of a hospital ship had been made known to the Secretary of War, but no steps had been taken to secure such vessel. Only $20,000 had been given to the department out of the $50,000,000 emergency fund, and the Secretary of War had directed the Surgeon-General to make no purchases until the question of whether or not there was to be war had been definitely settled."

The foregoing facts suggest the adverse circumstances under which the Medical Department, with the assistance of too few and untrained volunteers entered upon its duties in behalf of an army suddenly increased to more than ten times its usual size. More than this were the hindrances due to failures in the transportation and delivering of supplies. Says the report: "The loading, shipping, and unloading of medical stores are not done under the orders of the Medical but of the Quartermaster's Department, and the Medical Department is not responsible therefor. The blame for so much of the lack of medical supplies as was the result of slow transportation and failure to deliver, and it is no small portion thereof, must rest upon the Quartermaster's Department, the system it follows, and the officers belonging to it." With respect to the conditions at Chickamauga the Commission declare "The responsibility * * * rests upon those who assembled over 60,000 raw levies and kept the great mass of them together for weeks, and upon those whose duty it was to inspect, advise, and order—officers, medical and military, regimental, brigade, division, corps, and of the camp—and the higher the authority the greater the responsibility." Referring to the adoption of division hospitals in place of regimental hospitals the Commission assert: "In theory the plan was a good one, as it permitted of more perfect classification of the sick, better attendance upon them with fewer doctors, and a more economical administration; as carried out it worked badly." The reasons assigned were the scarcity of medical officers unconnected with regiments, injured regimental pride and the lack of special training for the work. Of the hospitals at Montauk the report continues: "The history of these Montauk hospitals is the history not of careful, thorough preparation and smooth administration, but of hurried adaptation to extraordinary demands. In less than sixty days after the time when the site of Camp Wikoff was a waste, over 10,000 sick had gone through the hospitals—general, detention, and division—over 4,000 more had been examined, if not treated, at their regimental hospitals, and neither typhoid nor yellow fever had become epidemic in the camp."

After a careful sifting of all the obtainable evidence the Commission reached the following conclusions.

(1) That at the outbreak of the war the Medical Department was, in men and materials, altogether unprepared to meet the necessities of the army called out.

(2) That as a result of the action through a generation of contracted and contracting methods of administration, it was impossible for the Department to operate largely, freely, and without undue regard to cost.

(3) That in the absence of a special corps of inspectors, and the apparent infrequency of inspections by chief surgeons, and of official reports of the state of things in camps and hospitals, there was not such investigation of the sanitary conditions of the army as is the first duty imposed upon the Department by the regulations.

(4) That the nursing force during the months of May, June and July was neither ample nor efficient, reasons for which may be found in the lack of a proper volunteer hospital corps, due to the failure of Congress to authorize its establishment, and to the nonrecognition in the beginning of the value of women nurses and the extent to which their services could be secured.

(5) That the demand made upon the resources of the Department in the care of sick and wounded was very much greater than had been anticipated, and consequently, in like proportion, these demands were imperfectly met.

(6) That powerless as the Department was to have supplies transferred from point to point, except through the intermediation of the Quartermaster's Department, it was seriously crippled in its efforts to fulfill the regulation duty of "furnishing all medical and hospital supplies."

(7) That the shortcomings in administration and operation may justly be attributed, in large measure, to the hurry and confusion incident to the assembling of an army of untrained officers and men, ten times larger than before, for which no preparations in advance had been or could be made because of existing rules and regulations.

(8) That notwithstanding all the manifest errors, of omission rather than of commission, a vast deal of good work was done by medical officers, high and low, regular and volunteer, and there were unusually few deaths among the wounded and the sick.

As needs of the Medical Department in the future the Commission recommend a larger force of commissioned medical officers; authority to establish in time of war a proper volunteer hospital corps; authority to have in readiness a reserved corps of selected trained women nurses; extra medical supplies to be kept constantly on hand; improved means of transportation, less "paper work" and authority to procure sick diet at need.

The report covers a vast deal of ground examined within a short period of time and in our opinion is a just and candid statement of the facts.

LET THE METRIC SYSTEM *ONLY* BE TAUGHT.

So slow and indifferent has been the course of reform in our system of weights and measures that the mention of it prompts a kind of apologetic feeling as in obtruding a disagreeable subject. This is a strange commentary on medical progress in view of the importance of the matter and the respectful attitude it has for more than a score of years commanded from scientific persons of all classes, and yet it is a fair index of the peculiar situation. In spite of the earnest efforts and lively expectations of the most interested friends of the metric system and the frank admissions of the more conservative, that a change is desirable, the reform does not take place. It is true that nearly all chemists, physicists and other scientists do employ the metric system but its general adoption by physicians and pharmacists is still far from being achieved. It is not an exaggeration to state that a hope, which as been disappointed, was as strong a decade or more ago as it is now. The basis of that hope—the institution of a preliminary campaign of education—is now wanting. Under the existing circumstances there is no longer need of argument or explanation in favor of one system or in condemnation of the other. The bungle and want of precision consequent upon our present methods have long been recognized and declared. On the other hand the exactness and convenience of the decimal system are also widely apparent. Notwithstanding the confessed advantages to be gained the change has not occurred and without the operation of other agencies may not soon be expected.

The responsibility for the failure of doctors and druggists to coöperate in favor of reform is possibly divided. The continued use of the old system is obviously necessitated both by ignorance of the new on the part of many of both classes and the mutual distrust by those who otherwise would be progressive. These are potent factors and will doubtless affect individual action, at least, for many years to come.

In looking over the entire situation it becomes apparent that a reform of this kind can hardly be expected to be developed and completed by men already accustomed to other modes which habit has made easy. It is evident that it must come, if at all, through the schools. Furthermore, it seems necessary, in order to avoid the perpetuation of the old methods that the metric system *only* shall be taught. It is essential that there be some restraining influence. In order that confusion may not arise the coöperation of both medical and pharmaceutical schools must be had. Concerning the latter we are already advised. They are now in the van in pushing the reform and are solicitous of its progress. The schools of medicine are unfortunately in a chaotic condition in reference to this matter but a hopeful solution of the problem presents itself. The leading medical schools can be reached through the channel of the American Medical College Association. To this organization, which has already materially advanced medical education in this country, we therefore commend the execution of this enterprise. Believing that few subjects can more worthily occupy their attention and serious consideration and that few acts, possible to them, of which we are cognizant, can further promote medical progress we are encouraged to hope that this matter will be speedily taken up and carried to a successful issue.

WHO WANT A MEDICAL LAW IN MICHIGAN?

As is well known there have been introduced and are pending before our Legislature the Howell, Chandler and other bills calculated to reform and control medical practice in the State of Michigan. The activity manifested by numerous members of the medical profession in the interest of such a law, coupled with embarrassing differences of opinion upon its provisions, has given rise to a somewhat general impression that class legislation is aimed at. Insinuations of this character have even appeared in the daily press. Without entering into a discussion of the merits of the several bills, any one of which would be received with acclaim by the majority of the better element of the profession, we are prompted by a sense of indignation to ask and answer the questions, who want and who need a medical law in Michigan?

From the predominating interest of the medical profession in securing such a measure the natural inference is that the profession want it. We candidly admit this to be a fact and most strenuously declare the motive to be as pure and philanthropic as that which would ward off small pox, diphtheria and all other physical diseases. Indeed these—ignorance, incompetency, quackery and charlatanism—are the diseases of which we would rid the social organism. It is an indisputable fact that untold suffering and expenditure and waste of both money and time are entailed upon the public by the continuance of these conditions, all of which might be avoided. Far from competing for and limiting the business and income of qualified and reputable men the horde of counterfeit and preyful practitioners actually increase both. Do we then want a medical law? In the interest of our finances, no, but in the interest of humanity, yes. Perhaps the greatest stroke of economy the people of this state could make would be the enactment of a strict medical practice act. They sorely need it, can have it and still care not.

ANNOTATIONS.

TOO MANY SOCIETIES.

No one is expected to contradict the statement that medical societies in some localities are in excess of the demand. We do not hesitate to go further and state that too many medical societies are a positive damage to the causes for which they were organized. Such a condition means a divided profession, and a divided profession means a division of specialists and those who are doing original or commendable work. Such work constitutes the life of the organization and the energy required for it should be united, not divided. Wherever the profession is found organized along other lines and according to other principles or motives there may be observed without number unaffiliating or disinterested members, stupid papers and discussions and uninteresting meetings. Where unity prevails the spirit of work and of progress will be felt in ever-widening circles.

MEDICAL NEWS.

THE COMING MEETING OF THE STATE SOCIETY.

The thirty-fourth annual gathering of the Michigan State Medical Society will occur at Kalamazoo, Thursday and Friday, May 4 and 5. The preliminary announcement recently issued by Doctor Johnston, the general secretary, promises an interesting and instructive meeting. The President's address will be delivered by Doctor E. L. Shurly; the address in General Medicine by Doctor C. G. Jennings; the address in Surgery and Ophthalmology by Doctor Fritz Maass; the address in Obstetries and Gynecology by Doctor W. P. Manton. In the section on Medicine, special papers on mental and nervous subjects of practical importance to general practicioners will be read by Doctors W. M. Edwards, of Kalamazoo; J. D. Munson, of Traverse City; E. P. Christian, of Pontiac; Samuel Bell, of Newberry and C. B. Burr, of Flint. "Brain Surgery" will be discussed in the Section on Surgery and Ophthalmology, and "The Etiology and Treatment of Puerperal Sepsis," will receive attention in the section on Obstetrics and Gynecology. The regular program of papers will be issued prior to the meeting. The social features of the occasion have not yet been completed, but a reception to be held at the Michigan Asylum for the Insane has been announced. The usual rate of one and one-third fare will prevail on all Michigan railroads, and Kalamazoo being accessibly located the attendance should be large.

THE EDITORIAL SUCCESSOR OF DOCTOR HAMILTON.

Doctor George H. Simmons, of Lincoln, Nebraska, has been appointed editor of *The Journal of the American Medical Association*, vice Doctor John B. Hamilton deceased. The selection was made by the board of trustees after conducting a competitive examination of candidates and testimonials at the annual meeting held in Chicago, February 17, 1899. The present incumbent is forty-six years of age, and received his literary training at Tabor College, in Iowa, and the University of Nebraska. Prior to embarking in medicine he taught school two years in Lincoln, during which time his debut as a writer was marked by a hundred-dollar prize received from the Kansas State Board of Agriculture for an essay. He obtained the degree of Doctor of Medicine at Rush Medical College, and afterward spent two years in Europe, studying at Berlin, Vienna, Paris, London, Glasgow and Edinburgh. Since locating in Nebraska he has displayed ability as a writer and an organizer.

THE DEMISE OF DOCTOR ROHÉ.

Doctor George H. Rohé, of Maryland, superintendent of the Springfield Asylum for the Insane, and professor in the College of Physicians and Surgeons of Baltimore, recently met death suddenly in New Orleans. The doctor was born in 1851, and received his medical degree from the University of Maryland in 1873. He began the practice of medicine in Baltimore and later was appointed health commissioner of that city, which position he resigned to accept the superintendency of the Maryland Hospital for the Insane. When the State decided to build the Springfield Asylum he was given entire charge of this institution. He was skilled in dermatology and gynecology, and in recent years had become an alienist of note. Deceased was a prolific writer, many papers and several books being the product of his facile pen, one of the works, "Rohé's Hygiene," serving as a textbook in some of the colleges.

MINOR INTELLIGENCE.

Charles W. Morse, M. D., of Dowagiac, Michigan, died January 24, 1899, at the age of seventy years.

Duke Carl, of Bavaria, the far-famed ophthalmologist, has recently been honored by an election to honorary membership in the Academy of Medicine at Saint Petersburg.

Doctor Robert Harris, editor of "Playfair's Midwifery" in this country and author of a number of articles for medical journals, died February 21, 1899, at his home in Philadelphia.

Jamsetji Tata, a wealthy native Indian, has given $1,250,000 for the establishment of an institution to be modeled after our own Johns Hopkins. The lines of investigation will embrace science, technology, medicine, sanitary education and philosophy.

Professor John Uri Lloyd, author of "Etidorhpa," has contributed an article to the April number of *The Coming Age* entitled "Do Physicians and Pharmacists Live on the Misfortunes of Humanity?" It will be found replete with interest to those pursuing medicine or pharmacy.

At the annual meeting of the Northeastern District Medical Society of Michigan recently held at Lapeer, the following officers were elected for the ensuing year: President, Doctor C. B. Burr, of Flint; vicepresident, Doctor J. S. Platt, of Port Huron; secretary, Doctor S. E. Conner, of Port Huron, in which city the next meeting will be held.

Eugene C. Skinner, M. D., of Detroit, Michigan, died January 24, 1899, at fifty-eight years of age. Though not actively engaged in the practice of medicine he became thoroughly identified with the profession chiefly through his connection with the Detroit College of Medicine. He had a versatile mind, dveloping and maintaining a love for law, literature, art and science as well as medicine.

Governor Pingree recently appointed Doctors Collins H. Johnston, of Grand Rapids, and D. A. McLachlan, of Detroit, to membership in the State Board of Health, *vice* Doctors G. H. Granger and S. G. Milner, who were relieved from service by expiration of term. His Excellency also appointed Doctors John L. Irwin and B. Howard Lawson to membership in the Detroit Board of Health, to succeed Doctors H. W. Longyear and C. S. Morley, whose tenure of office expired.

James H. Etheridge, M. D., of Chicago, Illinois, died February 9, 1899, at the age of fifty-five years. He graduated from Rush Medical College in 1869 and began his professional life in Evanston. He gradually developed a large practice and later became eminent as a gynecologist. At the time of his death he was professor of both gynecology and obstetrics in his *alma mater*, and professor of gynecology in the Chicago Polyclinic, and attending gynecologist to the Presbyterian Hospital. For several years he was also secretary of the faculty of Rush Medical College. As a man he was of plain address, genial and cordial. His wife and two daughters survive him.

The Western Ophthalmologic and Oto-Laryngologic Association held its annual meeting in New Orleans, February 10 and 11. Two joint sessions and three sessions of the Ophthalmologic and Oto-Laryngologic sections respectively were devoted to reading and discussing papers. The following officers were elected: President, Doctor W. Scheppegrell, of New Orleans; first vicepresident, Doctor M. A. Goldstein, of Saint Louis; second vicepresident, Doctor H. V. Wurdemann, of Milwaukee; third vicepresident, Doctor E. C. Ellett, of Memphis; secretary, Doctor F. C. Ewing, of Saint Louis; treasurer Doctor W. L. Dayton, of Lincoln, Nebraska. The next meeting will be held at Saint Louis.

RECENT PUBLICATIONS.

REVIEWS.

PRIMER OF PSYCHOLOGY AND MENTAL DISEASE.*

As its title indicates, this small work comprises in outline the fundamental ideas respecting normal and diseased mind and practical notes upon the management of cases of insanity. The most important underlying facts pertaining to these subjects are set forth clearly, in a pleasing manner and intelligibly to nurses, attendants and others who may have no such fundamental knowledge. The author's characterization of the proper demeanor of attendant toward the insane patient is highly creditable and deserves widespread acquaintance.

*By C. B. Burr, M. D., Medical Director of Oak Grove Hospital for Nervous and Mental Diseases, Flint, Michigan; formerly Medical Superintendent of the Eastern Michigan Asylum; Member of the American Medico-Psychological Association, et cetera. Second edition, thoroughly revised. Philadelphia: The F. A. Davis Company, Publishers, 1898.

MANUAL OF OPERATIVE SURGERY.*

OPERATIVE surgery, which holds to surgery a relation similar to that of therapeutics to medicine, received a tremendous impetus by its introduction into the curriculum of medical studies. The demand growing out of this act occasioned this manual. It is representative not only of English but also of international operative surgery, and will be found very satisfactory for students' use. The explanations and descriptions are clear and the illustrations well calculated to expose the salient features they represent. For a text-book the order of arrangement is certainly peculiar but the value of the work is not thereby affected. The publisher's execution is admirable.

*By H. J. Waring, M. S., M. B., B. Sc. (London), F. R. C. S., Demonstrator of Operative Surgery and Surgical Registrar and Late Senior Demonstrator of Anatomy in Saint Bartholomew's Hospital; Surgeon to the Metropolitan Hospital; Surgeon-in-Charge of the Throat and Ear Department of the Metropolitan Hospital; Surgeon to the Belgrave Hospital for Children; and Erasmus Wilson Lecturer to the Royal College of Surgeons, England. Young J. Pentland, Edinburgh and London.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS.*

NOTWITHSTANDING the consideration which uranalysis and urinary diagnosis receive in standard works on surgery and medicine there has been demonstrated a need for special works of this kind. Several have been offered during recent years and are now in use though perhaps no book is more practical and has been more popular than this. The general profession has taken a liking to it and it has been in demand for medical college purposes. The present edition, the fourth, embraces the recent developments and newer methods of examination and diagnosis and will be welcome at this time.

*By Charles W. Purdy, M. D., LL. D. (Queen's University), Fellow of the Royal College of Physicians and Surgeons, Kingston; Professor of Clinical Medicine at the Chicago Post-Graduate Medical School; Author of "Bright's Disease and Allied Affections of the Kidney's;" also of "Diabetes—Its Causes, Symptoms, and Treatment." With numerous illustrations, including photo-engravings and colored plates. In one crown octavo volume of 365 pages, bound in extra cloth, $2.50 net. The F. A. Davis Company Publishers, Philadelphia.

THE PHONENDOSCOPE AND ITS PRACTICAL APPLICATION.*

THE Bazzi-Bianchi phonendoscope sprang suddenly into favor and has retained many friends among those who have learned its capabilities. Its greatest need has been the acquisition of a certain skill by its users. To assist in this has been the aim of this book. It comprises five chapters on phonendoscopy in its somatic relations and articles on the phonendoscope and the digestion of fluids, and the application of the phonendoscope in the course of pregnancy. The work contains numerous illustrations and schema and will be of valuable assistance in the proper use of this instrument. The publishers state, however, that a complete book on phonendoscopy is in course of preparation.

*By Aurelio Bianchi, M. D., Parma, Professor of Preparatory Clinical Medicine and of Pathology. With special articles by Felix Regnault, M. D., France, and M. Anastasiades, M. D., Greece. Translated by A. George Baker, A. M., M. D., Physician-in-Chief of the Chinese Medical Dispensary, Philadelphia, and author of prize essays entitled "The Revival of Learning," and "The Germans in America," et cetera. Philadelphia: George P. Piling & Son, 1898. Price fifty-five cents, postage paid.

THE CARE OF THE BABY.*

THIS book contains, after a short introduction, chapters on Before the Baby Comes, The Baby, Growth, Toilet, Clothes, Food, Sleep, Exercise and Training—Physical, Mental and Moral, Nurses, Rooms, and Sickness, and an appendix of remedies for internal and external use, a dietary and miscellaneous information of a practical character. The author has shown rare skill in presenting the several features of this subject in a manner alike acceptable to students, nurses and mothers. For mothers we know of no more useful or reliable printed guide for the care of their children during their tenderest years. The doctor may safely recommend this volume in any intelligent household.

*By J. P. Crozier Griffith, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, to the Methodist Episcopal Hospital, and to Saint Agnes' Hospital, Philadelphia; Member of the American Pediatric Society and of the Association of American Physicians. Second edition, revised. W. B. Saunders, Philadelphia, 1898.

ESSENTIALS OF MATERIA MEDICA AND THERAPEUTICS.*

THIS work, compend as it is, has been a veritable boon to many students. It is one of the very best. The therapeutic classification of remedies is, we believe, as practicable as any and for the student preferable by far to an alphabetical arrangement. The perfectly clear and terse style greatly assists the learner to clarify his knowledge of this difficult subject.

* By Henry Morris, M. D., Fellow of the College of Physicians of Philadelphia; Honorary Member of the Altoona Academy of Medicine; Associate Member of the association of Military Surgeons of the United States; Member of the American Medical Association, of the Pennsylvania State Medical Society, of the Phelidelphia County Medical Society, of the Pathological Society of Philadelphia; Physician to Saint Joseph's Hospital. Fifth edition, revised and enlarged. Philadelphia: W. B. Saunders, 1898.

THE PHYSICIAN'S VISITING LIST FOR 1899.*

OUR friends, the publishers, have furnished us with a variety of visiting lists, of which this is one of the most simply and compactly arranged and convenient for the pocket. Among the several styles offered no one could fail to find the complement of his need.

*P. Blakiston's Son & Company, Publishers, Philadelphia. Forty-eighth year of its publication.

ADULT DIET LIST.*

THIS block consists of classified lists of more and less digestible foods and those to be avoided. They are conveniently arranged, being intended for checking and distribution by the physician among his patients. For this purpose they will be useful.

*Compiled by C. S. Millett, M. D. Tolman Press, Brockton, Massachusetts. Price twenty-five cents.

THE MEDICAL NEWS POCKET FORMULARY.*

FORMULARIES of this kind have a legitimate place in medical practice, and this one, handy and complete as it is, will be of especial service to young physicians.

*By E. Quin Thornton, M. D., Demonstrator of Therapeutics, Pharmacy and Meteria Medica in the Jefferson Medical College, Philadelphia. Lea Brothers & Company, Philadelphia and New York, 1899. Price $1.50.

The Physician and Surgeon

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

THE DIAGNOSIS OF TYPHOID FEVER.*

By GEORGE DOCK, M. D., Ann Arbor, Michigan.
PROFESSOR OF MEDICINE AND PATHOLOGY IN THE UNIVERSITY OF MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

I HAVE no apologies to make for the apparent triteness of my subject. My experience has been that the discussion of typhoid fever is always in order, for no matter where we live, in town or in country, typhoid fever is one of the diseases we must expect to encounter and so protean are its forms that each case presents something of diagnostic interest. The consideration of typhoid fever at present is of even more than ordinary importance because of the additional diagnostic feature brought forward within the last three years, and one, the practical relations of which are important to understand. The Widal test is now in a stage through which all diagnostic measures must pass. Just as some men rely altogether on the tubercle bacillus in tuberculosis, or as they formerly depended on the detection of albumin for the diagnosis of Bright's disease, so we find at present men who, when called to see a probable case of typhoid fever, make no examination of the patient, but send a film of blood to a laboratory and await the result. That patients have died while waiting for the verdict is a detail that need not be enlarged upon here, but as one who sees something of both laboratory and bedside diagnosis, I must protest against the practice. Even if the Widal method were absolutely certain, it would still be necessary to make a complete examination of the patient in each case. One may go farther and assert that even if we had a specific treatment as a supplement to the specific bacterial diagnosis, as in the case of diphtheria, careful scrutiny of the patient's body, and some knowledge of his previous history must always be necessary. For in typhoid fever, much more than in, for example, diphtheria, no matter how effective the specific may be, the treatment of the patient can never safely be abandoned for the treatment of the disease. Moreover, some of the numerous complications and sequels of the disease will always be likely to occur, and their prevention and alleviation will be much more certain if the exact condition of the patient be made out by careful and repeated examination.

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*Prepared for the semiannual meeting of the Northern TriState Medical Association, held at Hillsdale, Michigan, January 24, 1899, but not read on account of the unavoidable absence of the author.

It is not my object to give here a complete account of the diagnosis of typhoid fever but to discuss briefly some of its more important aspects, hoping I can furnish a groundwork on which a discussion of value may be built. Of the Widal method I will simply say that it is at present the most reliable single diagnostic point in typhoid fever, occurring as it does in more than ninety-five per cent. of all cases, but it cannot be used by the general practitioner, except under unusual circumstances. It requires more laboratory facilities than most physicians command, and even when carried out by an expert we must remember that in a few cases of typhoid fever it is always absent, in a few more it appears only very late in the disease, or even in convalescence, and in a few cases the reaction is positive when there is no typhoid infection at all in the body. These last cases are not of much importance, as it does no harm for the patient to be treated for typhoid, not having the disease, if the possibility of another and more serious disease is not altogether lost sight of. Other bacterial methods of diagnosis are at present not available, all the methods for the isolation of the typhoid bacillus being more likely to make a wrong than a correct diagnosis. No single symptom should permit us to make a diagnosis of typhoid fever, but the conjunction of a certain number, with a careful differential diagnosis, will rarely leave us long in doubt. The course of the disease is such that if we can observe the patient from an early day there is rarely any difficulty in making a diagnosis. However, even this can only be done if we have already sufficient knowledge of the course, such knowledge as can only be obtained by seeing a good many cases, especially fatal ones with autopsies, and from the literature of the disease. Often we see cases not diagnosed simply because the practitioner has an incomplete idea of the clinical course of the disease. Not only the older masterpieces, such as those of JENNER, GEORGE B. WOOD, FLINT, MURCHISON, and LIEBERMEISTER, should be used for this purpose, but also those of more recent writers, and those who have described the milder and more anomalous forms, and among the most valuable articles on this subject may be mentioned those in the "Reports" of the Johns Hopkins Hospital.

Among the numerous symptoms the temperature is the most important, although very much misunderstood. We must remember that the temperature curve as given especially in older text-books is an average curve, not necessarily schematic, but made up from a limited number of cases. Such a curve, notwithstanding statements to the contrary, may still be seen in actual cases; but the general characters of the curve are more important than its absolute form. These general characters are: The more or less gradual rise; the more or less protracted, and rather high second stage, with usually only slight remissions, and gradual fall. These are so commonly present that out of a large number of temperature curves one can usually select all those of typhoid fever and separate them from those of other diseases.

A few words in regard to the various stages. The first stage of the disease is often not seen by a physician, and still less often is the temperature care-

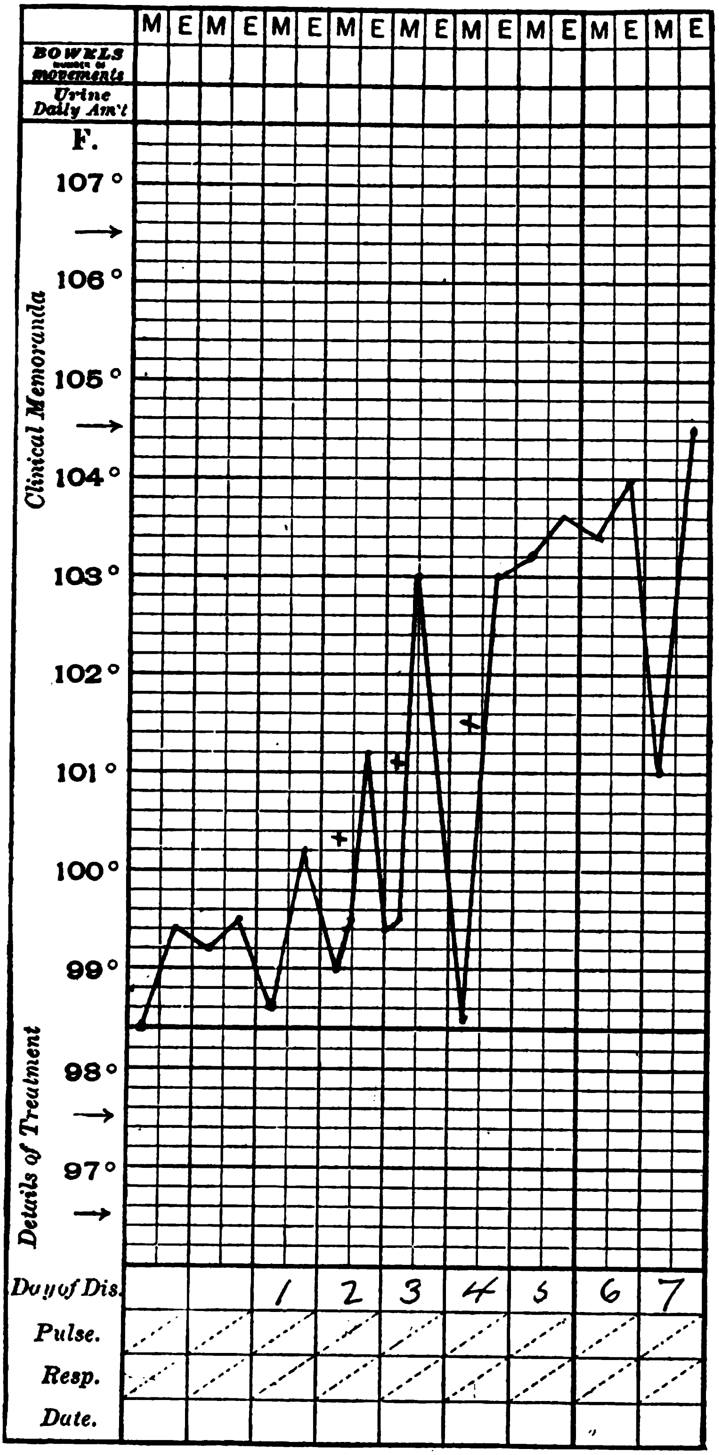

CHART SHOWING TEMPERATURE IN FIRST WEEK OF TYPHOID FEVER.

Before the day noted as the first of the disease the temperature had been running as high as 99° to 99.5° for several weeks, in consequence of a chronic diarrhea. The disease ran a severe course; the latter part was modified by treatment, and shows nothing noteworthy. + indicates chill.

fully recorded by the thermometer in that stage. Variations in the mode of onset are not uncommon, so that in some cases it is slow and in others comparatively abrupt. Corresponding to the slow rise of temperature marked chills are usually absent, but they sometimes occur, and the milder chills, not amounting to a decided shake, are not uncommon in this part of the country. Sometimes there are hard chills, leading to a suspicion of malarial fever. Yet I have seen a case that shows how unsafe it is to draw conclusions from these symptoms without using the microscope and thermometer. I recently saw a volunteer, returned from Porto Rico, in whom typhoid fever began with three hard chills on three successive days. I saw the patient after the first chill, and believing from his condition that the chill was not malarial, as he thought, got him to abstain from quinine until I could examine the blood. I examined it after the second chill, and was able to exclude malaria. It might have been supposed that the temperature had been high from the first day, that is to say, that there had been an intermittent fever, with high temperature, from the day of the first chill. It is a matter of great interest, however, that the patient had been taking his temperature for some time before this, in order to have objective evidence of the malaria he was exposed to and thought he had. The record shows that the temperature rose gradually from the day before the first chill, just as it does in many cases without chills, forming the gradual rise of the first stage of typhoid. The daily maximums for the first seven days are: 99.5°, 100.2°, 101.2°, 103°, 103.6°, 104°. Usually by the end of the first stage the patient has taken to bed, and is seen by a physician, and the temperature can then be followed, and both before and after this it is especially important that the temperature be modified by irregular active medication, as by the ubiquitous coal-tar antipyretics, as little as possible.

In the second stage we have, in the majority of cases, a temperature of considerable height and without marked daily variations, and this, following the first stage, and with the other symptoms well observed goes far toward making the diagnosis certain by the end of the first or beginning of the second week. The fever in some cases is not so continuous, but forms greater or smaller oscillations each day. In many cases these are due to treatment, in others they are due to causes which we cannot always understand, but in some of them, and these are very important, they depend on a septic infection, which sometimes alters the whole course and outcome of the disease.

Of the third stage of the fever it is not necessary to say much. Usually forming a gradual decline it is sometimes very irregular as the result of treatment, or of complications, and the record of the temperature in this stage, taken at short intervals, is therefore of great practical importance. At the end of the fever I always like to see the temperature going below normal in the morning. The convalescent with a temperature of 99° or more in the morning is one who always deserves careful examination. All through convalescence, and until the patient has entirely recovered his strength, a study of the temperature is always useful, but its consideration does not belong to the present subject.

Along with the study of the temperature should go that of the pulse. This is in most cases less frequent than in most febrile diseases with similar temperatures, a rate of 90 to 105 being about the average in previously healthy men. In many cases the pulse is always below 100, in some cases it is even abnormally infrequent. It is always important to remember that although in uncomplicated cases the pulse is relatively infrequent, yet in weak persons and in complicated cases a very frequent pulse may be observed. So in a case of septic typhoid in a young man, recently treated in my wards, the pulse was 140 on the fifth day (temperature 105°) and as high as 180 two days before death, on the sixteenth day. Another feature of importance about the pulse is the dicrotism, which is often present, especially in adults, by the end of the first week, and the occurrence of which in a patient sick only a short time is always suggestive of typhoid fever. The character of the fever, as gathered from the history, and the condition of the pulse can be studied on the first day the patient is seen, and though not sufficient for exact diagnosis, can often be used for a provisional diagnosis until time permits a better one.

As the next diagnostic feature of importance I consider the roseolar eruption, the search for which cannot be too carefully carried out. It should be looked for daily, having the body freely exposed in a good light, and marking all spots found so their duration and progress can be easily watched. Although similar spots can be seen sometimes in other diseases, yet they are always suspicious, and coming out in crops should always lead to a careful consideration of the possibilities. Unfortunately they are often absent, perhaps as often as twenty per cent. of all cases. In a recent case only two spots could be found, appearing first on the fifteenth day of the fever and the ninth in bed and under observation. But as they can sometimes be found as early as the fifth day, and usually by the beginning of the second week, they are of very great value.

The next important sign is the enlarged spleen. This is present about as often as the eruption, namely, in eighty per cent. of cases, and can usually be noted about the same time as the eruption, sometimes even earlier. In detecting the enlarged spleen in typhoid fever both skill and care are necessary, and repeated examinations must always be made in doubtful cases. In a recent case the spleen was easily felt on the day of admission, and impossible to feel the next day, owing apparently to only a moderate tympanites, for the next day again, and after that it could be easily felt. The enlarged spleen can of course be found in other diseases, and as some of these can be readily mistaken for typhoid, especially malaria, sepsis, and miliary tuberculosis, these diseases must be specially considered in the differential diagnosis.

The diazo reaction in the urine is another important diagnostic feature in typhoid fever. It occurs in probably a larger proportion of cases than any other single sign except the Widal reaction, and it is usually present very much earlier; if present at all it is usually by the end of the first week. The fact that the reaction may be obtained in tuberculosis and sepsis materially lessens its value, but its absence, almost invariably, in malarial fever, is a fact of great practical importance. Added to this, the test is easily carried out and the result easy to determine. In the diagnosis of relapses and complications the diazo reaction is also of great value.

The condition of the blood with reference to the number of white corpuscles is often useful in the diagnosis of typhoid fever. Except in rare cases, complicated with sepsis, the leucocytes are not increased; they are often slightly diminished. In severe cases complicated with sepsis from an early day, I have found the leucocytes always subnormal. In miliary tuberculosis there is a similar condition, but in most other diseases that might be mistaken for typhoid fever there is more or less increase of leucocytes. This fact does not absolutely require complicated apparatus for its detection. With some experience in the examination of blood, one can make a pretty safe estimation of the leucocytes from a good fresh or stained specimen.

The symptoms I have mentioned are the most important, but there are some others that must be used with just as much care. The tongue in typhoid fever is extremely variable. In fact almost any kind of a tongue may be seen in this disease. The small dry tongue of the typhoid state is oftener absent than present, and there is no feature about this organ useful in the diagnosis of typhoid fever, except the redness of the end and tip which can probably be observed in about half the cases, and is not often met with in other diseases that otherwise resemble typhoid fever.

Tympanites is very likely to be observed, though it is often absent. It is therefore a sign of little value, and the same may be said of the pain and gurgling in the right iliac fossa, formerly looked on as so important. At the present time marked pain in this region is more likely to suggest appendicitis than typhoid fever, and it is important to bear in mind that an appendicitis may be of typhoid origin.

As to the characteristic typhoid stools it is important to remember that these are oftener absent than present. That typhoid fever is not a diarrheal disease is now generally admitted. Constipation of various degrees is not uncommon, and constipation may alternate with loose, but not necessarily frequent, stools. But it is important to remember that no matter what the number, the stools are likely to be pale, and to be at times more or less watery, or even to have the characteristic appearance formerly considered as a matter of course. For this reason, and because of the importance of recognizing the earliest occurrence of hemorrhage, the stools should be daily examined. It may not be without interest to mention the fact that bichloride solution added to stools often gives a red color which has been mistaken for blood, but can be easily distinguished from it.

The symptom of nosebleed is altogether unreliable, and the typhoid state, sometimes considered an essential point in the diagnosis of the disease, is more frequently absent, while it may be present in other inflammatory or infectious disease. On the other hand a slight cough, with or without physical signs of bronchitis, is so frequent as to be of some diagnostic value. As a negative symptom herpes of the lips is important. When it occurs the diagnosis of typhoid fever should be criticised with very great care. Certain complications and sequels are sometimes the first strong proofs we have of the existence of typhoid. This is especially true of cases the early stages of which have not been observed or have been obscured by treatment. Hemorrhage from the intestine and peritonitis are the most important of these. Increased diuresis in convalescence is always a suggestive sign, and in some cases a relapse is the ground for naming a previously undiagnosed fever.

It would not be possible in the time permitted to a single paper to discuss the diagnosis of even the more important complications of typhoid fever. In the careful investigation of the case day by day, these can be discovered with moderate ease, whereas if the physician waits for them to declare themselves by subjective symptoms he will make many and sad mistakes.

HYPERTROPHIC ELONGATION OF THE CERVIX UTERI.*

By W. P. MANTON, M. D., Detroit, Michigan.

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HYPERTROPHIC elongation is among the rarest of the pathological conditions affecting the cervix uteri; so rare, indeed, that some observers of large experience deny its occurrence. Thus **EMMET** was of the opinion that the condition existed rather as an error in diagnosis than in fact; and **DUDLEY**, the latest

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

contributor to gynecological text-book literature, appears to support this view. The affection, however, has long been recognized, and as early as 1860 was made the subject of an elaborate thesis by **Huguier**, who attributed to it an importance undeserved. Since that time the condition has been described and figured in nearly every work devoted to the local diseases of women. The evidence of so large a number of witnesses as to cervical hypertrophy cannot be ignored, for it would be absurd to suppose that lacerated cervix or congestion of the uterine tissues could be indefinitely mistaken for so conspicuous a condition as hypertrophic elongation, nor would it be possible for such an error to be perpetuated in these days of scientific hairsplitting. The conditions referred to by **Emmet** as resulting from lacerations of the cervix are familiar to every practitioner of experience, and could be confounded with the affection under discussion only by the most superficial and incompetent.

Hypertrophic elongation of the cervix is found both in the virgin and nulliparious, and in the woman who has borne children, but the part of the cervix affected is not the same in each, and the etiology of the condition in the two instances differs.

In the virgin and sterile the hypertrophy affects only the vaginal portion of the cervix, and is of congenital origin. The part elongates conically, until from one to two and a half inches have been added to its length, but there is no thinning of the cervical tissues The body and fundus of the uterus maintain their normal positions, a fact readily determined by bimanual examination, and the vaginal walls are not often implicated in the condition. The whole process has been designated by the Germans as "prolapse without sinking of the fundus."—**Winckel.** The condition seems to be more prevalent among the colored than in the white race; **Hirst** states that he has never seen a case in the latter, while several marked instances are met with every year among the negresses who frequent his clinic.

In the parous woman hypertrophic elongation of the cervix arises as the result of insults and traumatisms received during labor, and subsequent inflammation, the effects of which are manifested in the supravaginal cervical zone. The vaginal portion of the cervix is usually flattened or atrophied in these cases, while the supravaginal part becoming plastic, is dragged upon by the vaginal portion, possibly also by subinvoluted vaginal walls, a process facilitated by such occupations as demand long standing upon the feet, gradually stretches until, in extreme instances, a greater or less portion of the uterine neck lies outside the vulvar rim. As the result of the elongating cervix the vaginal walls are pulled downward, and prolapse sooner or later occurs, with cysto- and rectocele, together with more or less descent of the entire uterus, although in many instances the fundus of the organ has been found to remain in place. The diameter of the neck does not greatly differ from that of the usual multiparous uterus.

It has been my fortune to have seen several of these cases, brief histories of two of which I herewith append:

Case I.—Single woman, aged forty-seven years, an inmate of the Eastern Michigan Asylum. Mental condition—chronic dementia. The patient was sent to the examining room with a history of uterine prolapse, the conditon interfering with locomotion and causing her much distress.

Examination showed the cervix extending beyond the vulva, the lips slightly everted and the os excavated. The vaginal walls were slightly prolapsed. The fundus and body of the uterus were in normal position and appeared relatively small. The sound entered the uterine canal to a depth of three inches, but evidently did not pass to the fundus. On account of the patient's mental condition plastic operation was considered unadvisable, and total vaginal hysterectomy was performed December 14, 1896. The patient made a good recovery.

January 3, 1897, the note is made—"vaginal wall at fornix well healed and slightly pouching, forming a teat-like process resembling a small lacerated cervix."

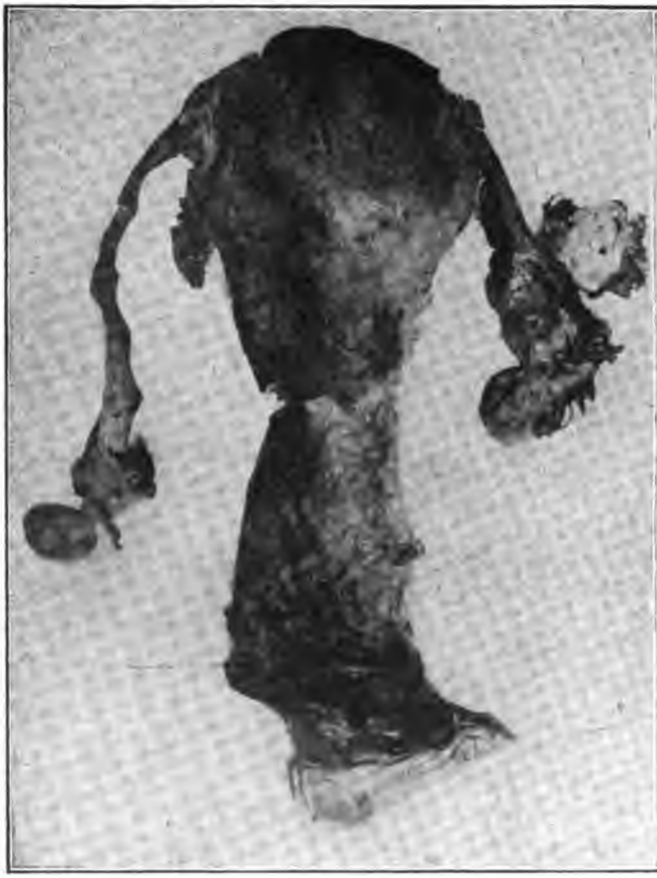

FIGURE I.

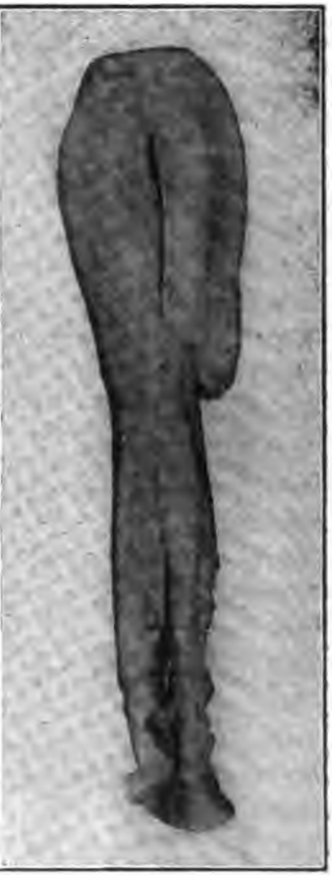

FIGURE II.

February 13, 1899, Doctor Morse writes me—"She has been much more comfortable since the operation, is now living at the Hurd cottage, and is regularly employed in the sewing room."

The uterus, as can be seen by this photograph (Figure I), appears very different from the normal organ. The body and fundus are about the size we would expect in a virgin uterus of this age, but at the junction of the body and neck the latter begins to stretch out and become elongated. There is a distinct overlapping of the body at the supravaginal cervical line, indicating exactly where the hypertrophy of the cervix began. The entire length of the uterus is six inches, that of the cervix three and one-half inches and of body and fundus two and one-half inches. The uterine canal measures five and six-sixteenths inches, but at about the junction of the body and cervix atresia has taken place for a distance of eleven-sixteenths of an inch (Figure II). This explains why the sound failed to measure more than three inches prior to operation.

Case II.—Widow, aged thirty-eight years. Referred from Polyclinic to my Tuesday clinic at Harper Hospital in October, 1897. Patient had had two children, the last sixteen years ago. Both labors were instrumental. Menstruation began at fourteen, and has always been painful with excessive flow. Patient complains of backache, dragging pains in pelvis, leucorrhea, constipation and painful micturition. Duration of condition, six or seven years. Examination showed the perineum lacerated to second degree. Uterus much enlarged, heavy and sagging, the fundus somewhat lower than normal. Cervix extending through vulvar chink, bilaterally lacerated with marked eversion of the lips. Cavity measures five inches. Cervix not thinned, and does not disappear on replacing the uterus. The following operations were performed: Curettage, amputation of cervix, anterior and posterior colporrhaphy, split-flap perineorrhaphy, internal shortening of right round ligament, and ventral fixation.

The patient made a good recovery and left the hospital in three weeks and three days. Since then she has been engaged in the hardest kinds of labor, washing, charring, et cetera.

February 11, 1899, I examined the patient with the following result: Perineum excellent; posterior vaginal wall slightly relaxed below, firm above; anterior vaginal wall firm; uterus in normal position, cavity two and three-fourths inches and open. Patient declares herself perfectly well and able to do any kind of work.

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CONTRACTED KIDNEY.*

By LEVI J. LENNOX, M. D., Detroit, Michigan.

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The subject of contracted kidney is one that would require a great deal of time to fully discuss in all its phases, and as the time allowed for this paper is limited I will only attempt to bring before you for your consideration and discussion a few of the main points of interest. I will aim to prove by citing personal experience and the quotations of different authors or writers on the subject of contracted kidney that the symptoms of contracted kidney caused by syphilis differ in many points from the symptoms of the same disease when the etiology is not associated with syphilis; also that in syphilitic cases the contracted kidney is only the result of a general fibrosis which affects most of the organs of the body, commencing in the small arterioles and capillaries; also that this being true (if it is) will explain why heredity is given by some writers in the list of indirect causes.

I will here mention the names of a few of the authorities from whom I make brief quotations:

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*Read before the Detroit Medical and Library Association.

F. T. Roberts, M. D.: "Practice of Medicine," 1880.
James Tyson, M. D.: "Reference Hand-Book," 1897.
A. Stengel: "Pathology," 1898.
Arthur V. Meigs, M. D., 1898.
Sir William Gull, and Doctor Sutton.
T. H. Green, of London, and Huebner.

Contracted kidney, renal cirrhosis, cirrhotic kidney, granular degeneration of the kidney, red kidney, gouty kidney, arteriosclerotic nephritis and renal sclerosis are all terms which are used to designate a chronic process resulting in a shrunken kidney in which there has been extensive destruction of the tubular substance and overgrowth of the interstitial connective tissue.

Most authorities in describing the symptoms of contracted kidney say that they are very obscure in the beginning and very insidious. In fact the beginning of the disease is not characterized by any distinctive symptoms, and the progress not marked by any symptoms until uremia is recognized. The peculiar tense, bounding pulse of hypertrophy of the left ventricle of the heart or slight swelling of the feet or ankles are spoken of by most authorities as the signal which directs our attention to the condition of the kidneys. Examination of the urine would give, we are told, an acid reaction. The quantity is copious, never being scanty in the early stages of the disease. It is light in color and low in specific gravity—1005 to 1010, and is generally albuminous, the albumin, however, being small in amount until later when it is constant. Tube casts, like albumin, are small in quantity. Later in the disease the urine becomes scanty, the casts become more numerous and the specific gravity increases. The urea also diminishes, and there is likewise a marked weakness. Hypertrophy of the left ventricle without valvular disease is a constant symptom. Sclerosis of the arteries is a very constant and valuable diagnostic symptom. Dimness of vision is another symptom upon which great stress is laid. Sometimes the ophthalmologist, discovering this condition due to retinitis albuminuria, is able to first diagnose the heretofore obscure cause of failing health, the optic symptom being indicative that the disease is of long standing and the prognosis very unfavorable. Death by apoplexy is said by some authorities to be due in a large percentage of cases to the atheroma of the blood-vessels which rupture in the brain, the atheroma being the direct result of contracted kidney. Dizziness and more or less deafness are also symptoms of chronic interstitial nephritis. Uremia occurs in this more frequently than in any other form of Bright's disease, causing headache, drowsiness, convulsions, stupor, delirium, restlessness, nausea and vomiting. Obstinate vomiting, especially in the morning, is a very frequent result of the uremia of contracted kidney.

We will pass over the complications, diagnosis, prognosis and treatment as time will not permit us to dwell on them.

With regard to the etiology, most authorities admit that there are a large number of cases in which it is impossible to discover the cause. Gout seems to stand at the head of the list, so much so that gouty kidney is one of the synonyms, excessive uric acid in the blood being of course the specific cause. Lead poisoning is another factor in the list of causes. It is asserted that one-half of all painters who follow the trade for a considerable number of years eventually die of contracted kidneys. Business care and worry is a cause assigned by many authorities. Hereditary influence is considered another. Valvular heart disease and stone in the kidney, causing nephritic colic, figure conspicuously as others.

It is a disease of middle age, few cases occurring in persons under forty years. There is a tendency of overgrowth of the interstitial tissue of the kidney in old age, hence the term senile atrophy of the kidney, but this condition alone is not sufficient to warrant the term contracted kidney as we are now considering it. Alcoholism, exposure to cold, and lastly syphilis, which is a cause seldom mentioned by any authorities, pose as causative factors. "The Disease of Age," as described by A. V. MEIGS, is summed up in the following quotation from his writings: "All human beings who do not die from some other cause develop fibrosis, which progresses with greater or less rapidity until the organism is so far impaired that something must give way. Then the machine stops." He further says that among all the diseases received into the modern classifications there is none that comes nearer to this "Disease of Age" than what is known as Bright's disease of the kidney in contracted form. Under the head of the etiology of contraction of the kidney, very few authorities give syphilis as a cause, and none are of opinion that it should stand prominent among the causes of this form of kidney lesion, yet most authorities admit that the kidneys undergo changes both in the early and late stage of syphilis even when the victims recover and are cured of the disease (if such a thing as a perfect cure can be made). Albumin in some of these cases of syphilis occurs in quantities as large as in Bright's disease, and with the cure of the disease by mercury and the iodides the albumin also disappears. Glycosuria has appeared and disappeared under the same circumstances in syphilitic patients.

Most writers on the subject of contracted kidney agree that the sclerosis of the blood-vessels and hypertrophy of the left ventricle of the heart are found to accompany the first named condition. DOCTOR ROBERTS, twenty-seven years ago speaking of the etiology of contracted kidney says: "It is chronic, insidious and independent of any obvious exciting cause." German authorities at that time claimed it to be only a later stage of large white kidney. The primary cause of cardiac, vascular and renal lesions is spasm of the arterioles or capillaries. Obstruction is thus offered to the flow of the blood and the arterial pressure is raised. The heart hypertrophies to overcome the increased resistance. There follows a still greater tension and the vessels and the kidney become diseased in consequence of this increased tension, therefore, high arterial tension is a common cause of all the lesions spoken of. The high arterial tension is caused by sclerosis of the coats of the arterioles. The poison, acting by direct stimulation of the arterioles, has a deleterious effect on the vasomotor nerves. DOCTOR F. HENRY GREEN, of London, says that syphilis favors the occurrence of atheroma of the arteries. HUEBNER says that changes in the cerebral arteries are characteristic of syphilis. Syphilitic infection is the most potent cause in the production of arteriosclerosis. In case of sclerosis affecting the cerebral vessels, cerebral softening is the result. When it affects the renal vessels, degeneration and fibroid changes occur.—ALFRED STENGEL. ARTHUR V. MEIGS says there are no peculiar histological changes of blood-vessels belonging specifically to any one disease. He says syphilitic endarteritis is in every respect identical with endarteritis arising from various other causes; that endarteritis deformans, so common in old people and which is found in various parts of the body in Bright's disease, is frequently identical in all its physical characteristics with that which is caused by syphilis. It is not long since it was believed that certain arrangement of the cells and certain thickening of the walls of the arterioles could be produced only by syphilis and that any one who had attained the requisite degree of skill could recognize them by their peculiar appearances. Syphilis is popularly termed a blood disease, but the fact has been demonstrated by pathological investigation that there is very little change in the blood itself except that in the early stages of the disease there is a slight diminution in the number of red corpuscles and a corresponding increase in the white ones. SIR WILLIAM GULL and DOCTOR SUTTON deny that thickening of the small arteries and capillaries is due to muscular hypertrophy. They affirm that these vessels become the seat of a fibroidal change which leads to the thickening of their walls, with loss of elasticity, and attribute the cardiac hypertrophy to this arteriocapillary fibrosis. Their opinions as to the pathology of contracted kidney are that it is but a part of a general morbid condition beginning in the smaller vessels and affecting these throughout the body, which leads to atrophy of the tissues. The vascular changes outside of the kidneys are not secondary to the renal disease but merely a part of the general disorder.

I have seen three cases of contracted kidney, so diagnosed by several reputable physicians. In all three there was syphilis preceding the symptoms of kidney lesion and undoubtedly this disease operated as the cause. One case I will briefly describe. This case is still living but absolutely helpless and will die in a few weeks or days. I have hope of being permitted an autopsy, and if so I will gladly report the result at some future meeting.

MR. W., aged thirty-nine years last month, contracted syphilis two and a half years ago. He had chancres, which were treated locally and followed by constitutional treatment for one year. In his case there was no eruption on the body except a few characteristic spots. There was ulceration of the throat and falling out of the hair. He inoculated his wife, who had a very extensive pustular eruption all over the body, one of the most extensive I ever saw. She suffered most intense migraine, which lasted over six months, the hair all falling out. She took vigorous constitutional treatment and in one year was to all appearances perfectly cured and is now the picture of health. I relate this case to draw attention to the probability of cases which have no marked pustular or other eruption being more likely to have the internal organs affected. To return to the original case: While under antisyphilitic treatment, which lasted one year, patient was strong and vigorous and apparently in as perfect health as possible for any man. About a year and three months ago he complained of a bad taste in the mouth and loss of appetite, some headache, constipation and in a couple of weeks I discovered that he had a rise of temperature 100° to 101°. I thought the patient had symptoms of typhoid, still he was able to go about and attend to his business. I then ordered him to remain at home and lie down most of the time, which he did for about three weeks, when his temperature was normal and subnormal at times. Still, the feeling of lassitude continued, the appetite did not return and very great thirst developed. This was about two months later. There was also an excessive flow of urine, which I examined several times but could not find either albumin, sugar or casts. The specific gravity was 1010 to 1012.

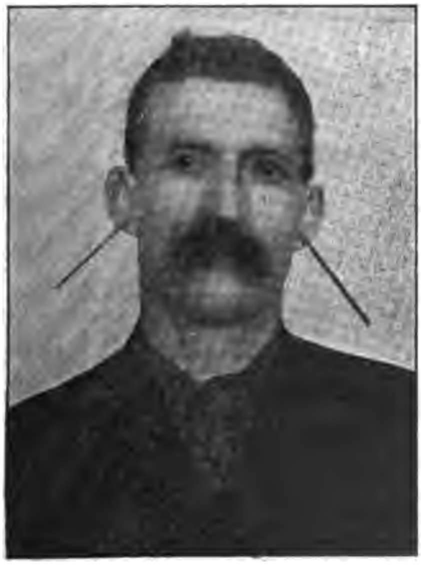
Finding no improvement, but instead a more serious condition developing, vomiting being added to the list of symptoms, I asked DOCTOR CHAPOTON to see the patient with me, which he did several times, also making several examinations of the urine, but finding nothing abnormal excepting that the specific gravity was 1005 when examined by him. The quantity had now increased to three or four quarts daily. The doctor's diagnosis was interstitial nephritis. The symptoms referred to the kidney have not changed since that time excepting that symptoms of uremia (without convulsions) gradually appeared and increased. The urine is less in quantity, being now about three to four pints. There has never been albumin or casts present, neither has there ever been the slightest swelling of ankles or feet, or any other part of the body. The vomiting which was very severe for three or four months is obviated by a diet of bread and milk. The thirst continues. He has cracked ice in his mouth almost constantly when awake. There is hypertrophy of left ventricle which has existed for nearly a year and a heart murmur has been detected during the last few weeks. There has developed some paralysis, this complication first manifesting itself in the upper eyelid of the left side, and later in the eyelid of the right side. There is a little dragging of the left leg and during the last month slight paralysis of muscles of the throat, affecting swallowing and articulation. I look upon this as a case in which syphilis is the direct cause of all the lesions, including the contracted kidney, commencing first in the arterioles or capillaries and extending through all the vessels, especially affecting the kidney, brain and heart. In all the few cases which I have seen wherein syphilis was no doubt the cause of the kidney lesion, the symptoms were about the same, as nearly as I can recollect. In none of them was there swelling of any part of the body, no convulsions, no albumin, no casts, no increase of the specific gravity in the last two stages, no dimness of vision nor deafness, all of which symptoms are given as generally being present in contracted kidney.

MEATUS WITH ABNORMAL DIRECTION.

By EMIL AMBERG, Detroit, Michigan.

[Published in The Physician and Surgeon exclusively]

At the meeting of the Detroit Medical and Library Association, on February 27, 1899, I presented a patient with an abnormality of the meatus on both sides. The photograph (see figure) has been taken after wooden sticks, covered at their ends with cotton, had been introduced into the external auditory canals for about 1.5 centimeters from the outer upper margin. The patient, Mr. J. P. B., thirty-two years old, is tall, has a somewhat high, well-rounded hard palate, and a rounded depression in the lower sternal region, of about ten centimeters in diameter and four centimeters in depth.



THE RELATIONS OF SOME PHYSICAL CONDITIONS TO MENTAL ABERRATIONS.*

By SAMUEL BELL, M. D., Newberry, Michigan.

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

The physician who enters this field of observation will be confronted with an entirely new phase of practice. The methods ordinarily used in eliciting information from sane patients is of very little value when applied to the insane. Patients admitted to our insane hospitals and asylums are incapable of imparting information relative to themselves to which any importance can be attributed, and in very many cases the records kept by the examining physicians previously in charge are not as full and complete either in relation to their mental or physical condition as to be of very much value to the medical staff of an institution in which they are received.

In regard to the etiological relations of diseases of the brain and sexual organs, the importance of which is being recognized by the general profession, as well as the medical staffs of not a few of our more progressive institutions caring for this unfortunate class, it is conceded that insanity is often caused by disease of the procreative organs, and also that mental disease frequently disturbs the normal action of other organs of the body, and in some cases modifies diseased action in them, the literature of the past containing some extravagant claims made by the gynecologist in support of this view. The inference to be drawn from this position, especially by the tyro in the profession, is, that if the organs of reproduction in women were preserved in a healthy condition insanity would seldom occur among them. On the other hand the psychologist or alienist has taught that women will lose their reason and regain it again without any influence being exhibited upon the sexual organs. These two positions (although I do not question the honesty of either) are perhaps at the two extremes. My experience has taught me, and I have observed, that the ablest and best men on both sides take the human organism in its entirety, ever bearing in mind the relation which each organ and part bears to each other and the possible result upon the brain and nervous system when an important organ or part becomes diseased. The boundary lines between the gynecologist and the psychologist often touch and cross each other. The physician who is cognizant of this fact will not be limited by any hard and fast lines given by any specialists. There is not, so far as I am aware, any large amount of literature as a result of investigations along the line which I have indicated.

Rohé, late of Baltimore; Buck, of the London Asylum; Joseph Price, of Philadelphia; Manton, of Michigan; Skene, of Brooklyn, and a few others, have for years done work along this line with more or less excellent results.

Surgical Treatment.—† "Since our recourse to surgical aid, three and a half years ago, one hundred and ten women have undergone operative treatment, representing one hundred and ninety-six distinct operations. These embraced eighty-three curettages, thirty-eight trachelorrhaphies and amputations of the cervix, twenty-six operations for suspension of the uterus, twelve ovariotomies, seventeen hysterectomies, two laparotomies for tubercular peritonitis, one celiotomy for removal of a broad ligament hematoma, and seventeen perineorrhaphies.

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*Read before the Detroit Medical and Library Association.

† These cases were treated in the asylum at London, Ontario.

Results.—"For the purpose of simplifying the classification of the one hundred and ten gynecological cases, and giving their present mental condition in brief, the main operation done on each patient will determine her classification in the accompanying resumé.

(1) "Of the twelve ovariotomies performed seven recovered, four improved, and one died on the twelfth day from pneumonic complication.

(2) "Of the seventeen hysterectomies performed—of which nine were vaginal and eight abdominal—there recovered five, three improved, and two died on the third day after the operation from exhaustion, and the other on the seventeenth day from secondary hemorrhage induced by patient on the fourteenth day by pulling out the ligatures.

(3) "The replacement of dislocated uterus was the operative treatment of twenty-two cases, either by the Alexander method or ventrofixation. Only four of this number have as yet recovered mentally, although eleven others have shown more or less mental improvement.

(4) "There were thirty cases in which the chief operation performed was the removal of diseased cervices. Of these, twelve are now well mentally and nine others have improved, a most gratifying result.

(5) "Of twenty-one cases in which minor uterine diseases were removed usually by curetting, there recovered twelve, and two improved, also a most gratifying showing.

(6) "The remaining eight cases embraced operations for vaginal lesions, fistula, et cetera. No mental recovery followed in any of these cases, and in only three was any improvement observed.

"Reckoning the one hundred and ten cases together, it follows that forty or over thirty-six per cent. were restored mentally, thirty-two or twenty-nine per cent. showed an improved mental status, while in thirty-five or thirty-two per cent. the mental condition remained stationary, and three or less than three per cent. died within a month succeeding the operation. It is due to us to state that no death has occurred from any operation during the past two years, during which period the last twenty-six gynecological operations were done. I am also positive in stating that a number of those operated upon would inevitably have died were it not for the timely restoration afforded by the operation. Our improved results during the past two years were no doubt due to the increasing efficiency of treatment gained by experience, and especially a better knowledge of the most effective postoperative management of our cases."

At the Upper Peninsula Hospital for the Insane, twenty-six cases were examined out of thirty-one admissions. Eleven had cervical laceration; ten had endometritis; five had ovarian disease; thirteen had a discharge, either mucous or mucopurulent, or both; six had perineal rupture; eight had uterine displacement; ten had ulceration; five had congested and enlargement of os; three had vaginitis; one had ovarian tumor; one had pin-hole os; five had menorrhagia; five had pelvic cellulitis.

The variety and nature of diseases among the insane are much the same as found among so many sane people, the symptoms being modified by the nervous system. The form of mental derangement is not limited to any particular variety, but are chiefly cases of melancholia and puerperal mania. The improvement following the treatment for the above physical derangement was followed by improvement in the mental condition in the majority of cases treated, though not always. In some cases after the organs of reproduction were in a healthy condition the delusions or hallucinations would continue.

Effect Upon the Mind of Diseases of Reproductive Organs.—The question suggests itself to the thinking student in what way do abnormal conditions of the organs of reproduction cause insanity, or in considering cases of insanity, how many are due to physical conditions? The cause and effect has long been recognized, but the way in which diseases of the sexual organs produce diseases of the mind and *vice versa* may still be considered an open question. It has been the custom to attribute insanity, when developed during the course of uterine or ovarian disease, to reflex action, and I have no doubt but that reflex action is a very important factor and may act as a direct cause. In highly sensitive organizations, acute disease of the ovary or uterus, or displacement of either, may be sufficient to cause mental derangement, which will continue while the physical condition lasts. The latter being relieved, the mental aberration also subsides. These cases are no doubt due to reflex action. There are, however, many cases of insanity in which uterine disease has existed for years prior to mental disease, the latter being developed long after the physical disease. These cases are not reflex, but due to an entirely different cause. Every physician of experience has observed that the mind becomes weakened as a result of disease, and it frequently occurs that the brain becomes permanently impaird as a result of prolonged suffering, the latter acting as an exciting cause, nutrition of the brain cells being impaired, as for instance in puerperal insanity. Ten per cent. of all mental diseases in women originate in connection with the function of reproduction. Insanity of gestation occurs any time between conception and parturition. Insanity of the puerperium applies to the time of uterine involution. Insanity of lactation occurs any time from six weeks after parturition to the end of nursing. Insanity during this period may take the form of mania, melancholia, or a stuperous type. Hallucinations of all the special senses as well as of common sensation may occur. Impulsive delusions, very dangerous in character, may develop. Feelings are perverted; acts of homicide, suicide, and frequently infanticidal acts are committed.

Some Cases of Puerperal Insanity.—There is no more prolific cause of puerperal insanity than septic infection. This cause is so frequent that there are enthusiastic gynecologists who do not hesitate to make the sweeping statement that every case of puerperal insanity is due to septicemia; but this is certainly claiming rather too much, for among other well recognized and clearly demonstrated causes may be mentioned the following:

(1) Shock to nerve centres following severe postpartum hemorrhage.

(2) Shock to patient during the lying-in period, induced by bad or startling news, such as of an accident to, or death of, some near relative.

(3) Disgrace attending illegitimate childbirth.

Hereditary tendency exists in a considerable percentage of all cases. This is a disease in which the general practitioner is especially interested and with which he should be familiar, as this malady occurs at a time when the services of the family physician are in constant requisition. There is, as the eminent CLOUSTON remarked, no event that can occur in the family, short of death, that can produce so great a shock as for the new-made mother of the firstborn to be changed, probably in a few hours, from an affectionate, sympathetic and patient mother to that of a maniac, and the fondest ties of husband and wife, mother and child to be torn asunder, in order that she may be sent to an asylum to receive proper care. The strongest affections on earth are suddenly converted, by disease, into the strongest hatred; the mother forgetting her nursing child, the husband looked upon by her as a fiend. Can the attending physician detect the coming mental storm and avert the impending danger?

The majority of cases of puerperal mania occur during the first two weeks after confinement. What are some of the symptoms? The mother looks dull and becomes self-absorbed; there may be noticed a lack of interest in the baby, also in what may be occurring around her; she does not answer questions readily; her appetite fails; she is unable to sleep at night and is restless in the morning; her eyes may be staring and brilliant; she has lost her feeling of exhaustion; she may express foolish fancies; delusions may develop, such as that the food is poisoned, or that there may be some one under her bed; or she may have illusions and speak of her husband and those caring for her as some one else. She may also have hallucinations of hearing, and imagine that she hears strange voices. It is during this period of the disease that the danger signal should be hoisted. The quiet manner is changed; she becomes talkative and incoherent; she becomes violent and may need restraint; she will get out of bed; she may attempt suicide, or make an attempt to murder her baby; her strength becomes superhuman, but her pulse weakens and her face has an anxious look; her temperature rises two degrees or more; there may be tenderness on pressure over the abdomen; she will not take food; the lochial discharge becomes first offensive and then stops altogether; she fails to recognize those around her.

EXAMPLES.

Case I.—E. S., A woman aged twenty-five years. She is a native of Michigan; can read and write; is a Protestant by religion; married, and has two children, the youngest being two months of age; housewife by occupation. She has been very irritable and discontented from the birth of her first child four years ago. She made frequent attacks on her husband, during that time, with any instrument she could find. A few days before she was committed she attempted to burn her baby by throwing it into the stove.

Case II.—M. D., a woman aged thirty years. She is a native of Michigan; has a common school education; is a Catholic by religion; married, and has had three children, the youngest being ten months of age; housewife by occupation. She had a mild attack five years ago, after birth of first child. She had always been strong and healthy until she commenced bearing children. Soon after birth of her last child she developed a very irritable disposition, and would become angry and sometimes violent without provocation. On several occasions since, she has thrown knives, forks, dishes, et cetera, at her husband. Shortly before coming here she attempted to strike him with an axe, and afterward tried to stab him with a butcher knife. She attempted to cut her child's throat with a bread knife.

Both of these cases made marked physical and mental improvement, and were both discharged, returning to their respective families and resuming their domestic duties. They were discharged more than a year ago, and since that time have remained well.

Case III.—P. M., a woman aged thirty-four years. She is a native of Canada; can read and write; is a Catholic by religion; married, and has had six children, the youngest of whom is four months of age; housewife by occupation. After birth of last child she had hallucinations of hearing and entertained delusions of persecution. She has repeatedly made vicious attacks on her children and sister, on one occasion almost killing her youngest child. She also attempted suicide by eating moth balls, some of which she likewise fed her baby. She has not improved mentally. She regards her husband and family as enemies. She imagines herself to be the wife of some man other than her husband. Norwithstanding that two years have elapsed since coming under observation, these delusions have become fixed, and the prognosis for her ultimate recovery is not good.

Treatment.—These cases are not generally successfully treated at home. An active change of surroundings seems to benefit them. Strangers in attendance upon them are less annoying, and their influence is more beneficial to them. The danger connected with this period of disease makes it necessary that some one in constant attendance must be responsible, otherwise acts of homicide or suicide may be perpetrated without any warning whatever. Rest in bed in a quiet room is a very necessary desideratum. When the nutrition of the body is below normal, which is the existing condition in almost every case, food of a highly nutritive character must be supplied, and in many cases must be introduced into the stomach by forced feeding, because of delusions of poisoning or extreme aversion to the food. This forced feeding may be accomplished per orem, per nasum, or per rectum, as the case may be.

A practical point in the treatment of these cases to be particularly noticed is that when, as so frequently is the case, septic infection is the cause of the insanity, the treatment should be directed to the disease. If the uterus contains septic matter, removal either by antiseptic uterine douching or by curetting is to be performed. It would be poor practice indeed to treat the mental symptoms alone and neglect the foci of the infection which causes the symptoms, which we have reason to believe is too often done.

The prognosis in puerperal insanity is quite good, seventy-five per cent. of all cases being permanently curable if treated in time. The importance of recognizing the disease early, and giving proper treatment, cannot be too forcibly impressed upon those who meet with this form of mental aberration. Delay means danger, not only of continuation of the disease but of all the unfortunate conditions connected therewith, and a condition which is worse than death, namely, chronic mania.

PLACENTA PREVIA, WITH REPORT OF CASES.*

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This subject is old and well worn but always of dramatic interest; a condition so fraught with responsibility and real danger to life, necessitating prompt, bold, vigorous action when met, that we trust a review of the subject in this society may not prove wholly unprofitable.

You all well know it fortunately is a rare condition. During the past ten years I have met with but five cases. I know of no situation in practice which better tests the coolness, wisdom, rare ability to think and act simultaneously, or in which real professional gifts of these qualities meet with more gratifying rewards than in placenta previa. It is one of those rather rare conditions in which nature has gone astray; in which it is our privilege to interfere with our art and rescue her victim from inevitable death if left to natural methods. We so often hear the words "Let Nature Alone," but here natural processes will kill. Her processes have become eccentric. To correct these eccentricities and to overcome their effects is the privilege and province of the physician, and our justification for our rather numerous presence in the social economy.

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*Inaugural paper read before the Detroit Academy of Medicine.

The history of this condition based upon its exact anatomical relations does not extend into the remote past. No doubt cases have occurred long before the dawn of history. It has been asserted that **HIPPOCRATES** describes the condition in his discourse upon superfetation. This ancient and acute observer says: "If a copious bloody discharge happens to a parturient woman without pain before the birth of the fetus, there is danger that the fetus may die before at least it is delivered alive." This could hardly refer to any other condition. **GUILLEMAUX** mentions this anomaly in 1608. **MAURICEAU** held as early as 1668 that the placenta was originally attached to the fundus but prolapsed subsequently. Our definite knowledge of this morbid condition begins with **SCHACHER'S** post-mortem upon the body of a parturient woman who had died of hemorrhage in Leipsic in the year 1709. He found the placenta adherent to the margin of the internal os uteri and drew the conclusion that it had been implanted there from the beginning of gestation. **JOHANN VON HOORN**, in 1715, definitely states in his "Manual for Midwives," that sometimes the placenta at the very beginning of pregnancy is implanted upon the mouth of the uterus, whence, as soon as the latter opens, the former necessarily becomes detached; and the more it is detached the greater the amount of blood from the lacerated vessels. In 1730 **BRUNNER**, of Strassburg. in a thesis maintained that the abnormal condition was a fixing of the placenta over the mouth of the womb; and added three cases to those already known. From these cases we trace the dawn of definite knowledge of this morbid condition. We may say to **SCHACHER'S** autopsy in 1709 is due our first definite knowledge.

Much has been written on the causes of this condition. It has long been held that a pathological state of the uterine mucosa predisposes to it. Too frequent impregnations and congested, relaxed inflammatory endometrium from whatever cause has been regarded as the prime etiological factor. This view is borne out by more recent and accurate knowledge. In consequence of the flabby condition of the uterine wall and of the hypersecretion of the inflamed mucosa the attachment of the chorionic villi is later and lower.

The rarity of these cases and the infrequency of the physician's attention being called to them, renders the question of prophylaxis of little practical value. No doubt to cure the abnormal condition of the uterus as a whole, would be truly prophylactic.

The practical phase of our subject remains how best to meet the condition when brought face to face with it. To properly consider this we need to be familiar with the mechanical processes with which we are to deal. During labor we may divide the uterus into two segments; an upper thickening and retracting part, and into a lower thinning, expanding segment which later includes the cervix itself. After labor we feel the upper segment contracted, firm and round while the lower segment remains flabby, loose and passive. During labor these conditions of the two segments are approaching; the upper segment hardening and contracting, the lower softening and expanding, or, more properly, becoming passively dilated. We have in the placenta a structure which can be compressed to a limited extent without rupture or detachment from the uterine wall, but incapable of expansion, and in consequence is detached from the expanding uterine wall *pari passu* with its expansion and displacement upward by the contracting upper segment which pulls, as it were, the lower segment away from the placenta, held as it is by the unruptured membranes and pressure of the impinging fetus, over which the contracting and retracting uterine wall is pressing. Thus we see if the membranes are intact the placenta cannot change its position on the ovum, cannot follow the uterine wall, and is torn off. On the contrary, if the membranes are ruptured either naturally or artificially, the placenta can more readily follow the uterine wall, and there is a cessation of the hemorrhage provided the implantation is not perfectly central. In perfectly central implantation more of the placental surface is necessarily below the zone of contraction, hence greater torn surface and more dangerous hemorrhage. When there occurs a series of hemorrhages during the later months of pregnancy we are justified in looking for central implantation as the lower uterine segment expands to a certain degree previous to beginning labor, thereby separating the placenta from its site of attachment, while in lateral implantation the uterine movement and changes are in a segment of a cylinder, enabling the placenta to move more readily with its site of attachment, which enables it to escape being stripped off till the more marked movements of labor begin.

In the treatment of these cases we have to meet first, a dangerous hemorrhage, rapidly fatal in extent unless controlled; second, dangers of sepsis; third, emboli and all conditions succeeding copious hemorrhage. Once hemorrhage from placenta previa has started, there can be no absolute security for our patient until the uterine contents are evacuated. With tampons we have but partial security. They unquestionably have a place of real value. They have been found most serviceable in preventing hemorrhage and in relaxing the os prior to more decided and radical interference. I believe the cases are very rare in which the bleeding is so profuse that the cervix will not be found relaxed sufficiently to permit the rupture of the membranes and gentle manual dilatation of the os sufficiently to perform podalic version if necessary, pressing the placenta to one side if possible and making a tampon of the child, permitting ample time for relaxation of the lower segment, and possibly nearly natural delivery. Cases that can be handled in this way escape largely one of the great dangers—sepsis. In my experience rupture of the membranes is one of our most potent means of arresting the hemorrhage and bringing conditions which enable us to empty the uterus. It almost immediately gives us pressure over the placental site by forcing the fetus down, and gives us tonic contraction of the uterus and early delivery. In rupturing the membranes all effort possible should be made to reach the edge of the placenta. This in itself pushes the placenta to one side and secures firm pressure from the body of the child upon the bleeding site; also enables the placenta to move upward with the retracting lower segment. The mortality of the child is a secondary consideration to the life of the mother. It is very large, and a better procedure is to be earnestly hoped for. In all the cases that have come under my observation I could find no evidence of life in the fetus when called. When the hemorrhage is profuse the child necessarily succumbs.

Case I.—In December, 1891, I was called to see a German woman, aged thirty years, who was in the eighth month of her sixth pregnancy. She gave a history of repeated hemorrhages extending over the three previous weeks. The hemorrhage was profuse, os dilated to readily admit three fingers, and implantation central. The fingers were passed in and upward to the superior border of the placenta and membranes ruptured. Being a breech presentation the feet were brought down into the vagina and left. Uterine contractions immediately followed and spontaneous delivery in about thirty minutes. I found no pulsation in the cord on first introduction of hand. The child was stillborn. The mother made a good recovery. An intrauterine douche of hot bichloride solution was given after the delivery.

Case II.—In August, 1898, I was called to see another German woman, aged thirty-two years, who was in the eighth and one-half month of her second pregnancy, the first having occurred seven years previously. No history of miscarriages. She had retired at 10 P. M. feeling well, but awoke at 2 A. M. with slight pain and profuse flowing. The os was slightly dilated, sufficient to admit one finger, but easily relaxed. Patient was quite pale, showing evidence of great loss of blood. The os was dilated manually, the upper border of placenta easily reached and membranes ruptured. It was a breech presentation. There was no pulsation in the cord. The feet were brought down well and labor was spontaneous, after which an antiseptic douche was given. Recovery was slow but satisfactory. This case was unusual only in the extent and rapidity of exsanguination.

Case III.—In September, 1898, I was called in consultation with Doctor O'Connor to see a woman who had had several children in rapid succession. She had no hemorrhage preceeding this illness which occurred at nearly full term. Doctor O'Connor had tamponed several hours previously. The tampon was now removed. Implantation of placenta was partially central, the border of which was easily reached and the membranes ruptured. There was no evidence of fetal life. It was a breech presentation. The feet were brought down and delivery occurred spontaneously in about half an hour. The child was stillborn. The mother did well until the eleventh day when she was attacked with phlegmasia dolens and made a slow but satisfactory recovery.

Case IV.—In October, 1898, I was called in consultation with Doctor O'Connor to see a woman aged thirty years, who was in her fourth pregnancy. She has had three children, all stillborn, and they came in rapid succession. Labor began at full term, hemorrhage occurring simultaneously with early pains. Os dilated slightly but easily dilatable. Implantation more lateral than central. The membranes were ruptured at the border of the placenta. It was a breech presentation. No pulsation in the cord. The feet were brought down and labor was normal except that assistance was required for delivery of the head. Recovery was rapid and without incident.

Case V.—In October, 1890, I was called to see a woman after she had been practically without care tending to stop hemorrhage or deliver for about ten hours. A physician had been called but he left patient. I found her exsanquinated. Os well dilated. Half of the placenta was in the vagina. On examination the placenta was wholly detached and the child delivered, but the mother died in about half an hour afterward, from loss of blood. This case illustrates well the fatality of an unassisted delivery.

These cases are neither unique nor peculiarly instructive. They have led me to the conclusion that a well crystalized and definite plan of procedure should be possessed by all practitioners. So much has been said and written on these cases that tends to confusion and uncertainty that a review of the condition and how to meet it may not prove wholly valueless.

I would emphasize a few salient points in conclusion:

(1) The great danger which is immediate and pressing is death from hemorrhage. I would meet this by puncturing the membranes and gentle manual dilatation if the os uteri is at all relaxed and dilatable without great force, care being taken to avoid laceration by possibly pushing the placenta to one side and bringing down the feet, thus making a tampon of the child which arrests the bleeding and gives ample time for spontaneous delivery, a condition which insures tonic contraction of the uterus after delivery.

(2) The next great danger is from sepsis. To meet this the most rigid aseptic precautions should be taken with hands and instruments, followed after delivery with a hot bichloride intrauterine douche and an immediate repair of all laceration, with copious saline enema if the bleeding has been profuse.

Should the os uteri be found rigid a tampon of sterilized or iodoform gauze packed into and about the cervix firmly, will in a short time insure the proper conditions for radical interference and assure relative safety in the meantime. Should the uterus after delivery show great lack of tone after stimulating with the hot antiseptic douche, again tamponing the uterine cavity would enable us to meet this emergency. The tampon meets the indication in a very few cases, perhaps, better than dilatation, rupture of membranes and delivery; but my preference for the latter method would lead me to resort to it in all cases in which it can be done without laceration.

MERCUROL: A NEW GERMICIDE.*

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Last September (1898) Doctor Schwickerath, of Detroit, brought to me for trial a nucleid of mercury which he named mercurol. It is a whitish powder readily soluble in hot water, with a faintly alkaline reaction. Albuminous substances are not coagulated by the addition of a mercurol solution, hence no coagulum is formed when it is brought in contact with mucous membranes. The property of nuclein being nearly related, chemically and physically, to the properties of mucous membranes, mercurol is seemingly rendered more diffusible, that is, more deeply penetrating.

As to the composition of mercurol, it is a definite chemical compound of mercury with nucleinic acid from yeast, containing about ten per cent. of mercury.

There is no immediate discomfort upon its use in the conjunctival sac, even to a five per cent. solution, but in this strength, from fifteen to thirty minutes after instillation, a severe burning begins, and with considerable lachrymation, lasts for one or more hours. Unlike the silver salts, it does not increase the secretion of mucus, but causes a marked diminution of the discharge.

Solutions of the mercurol salt were found not to be stable, but became so upon the addition of one-half of one per cent. of chloride of sodium. It is a marvelously strong germicide, and this property is undoubtedly increased by the addition of the salt.

I have used it in many cases of chronic conjunctivitis, blepharitis, phlyctenula, and in one case of ophthalmia neonatorum; also in several cases of small ulcers of the cornea, and in all, with fine results. In acute and chronic suppurative otitis media, by intratympanic injections, I have had most elegant results, the relief being rapid. I found its use most valuable in a case requiring an artificial drum. Saturating the cotton with a five per cent. solution, relieved the irritation and by its agglutinative properties held the cotton drum in situ. The cotton drum was left in at one time for more than two weeks without causing disturbance of any kind, whereas, with other medicaments a suppuration was excited. The case of ophthalmia neonatorum was loaded with gonococci, and improved very rapidly, much more so than has been my experience with the silver salts. As an external application in burns of the eyelids and face (burns of the skin) I have seen happy and most rapid effects. The same happy results have followed its use in stitch abscess. As an antiseptic dressing it has a fine effect. I used it in ointment form in preference to the yellow oxide of mercury. The fact that microorganisms cut no small figure in the many disorders of the eye and ear, and the rapid relief which follows its use in many cases, is to me strong proof of its most excellent germicidal qualities. I use it commonly before and after cataract extractions—one per cent. solution—as an antiseptic, and look upon it as about the only strong antiseptic which can be safely used in the conjunctival sac. It produced a rapid relief of eczema aurium in several cases. I applied it once a day in each case.

THE MENOPAUSE.†

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Allow me to preface this article by stating that no startling theories are to be enunciated; no wonderful discoveries announced. I propose rather to emphasize more strongly, if possible, some of the knowledge you already possess, and which has reached you from the experiences of the remote and recent past.

*Read before the Detroit Medical and Library Association.

†Read before the Wayne County (Detroit) Medical Society.

Of such supreme importance is this topic that volumes might be written upon it, and yet the subject not be exhausted; hence, with the limitations of time required, only the merest fragment can be presented. Sufficient, however, I trust may be said to afford a liberal text upon which to base your discussions.

No greater responsibility rests upon the physician than does the care of the woman. She who is the mother of the race deserves our holiest and highest consideration. The great law underlying that marvelous, and yet simple phenomenon of the reproduction of the human body, foreshadows an inevitable specific experience to her. The conditions incident to maternity, she can in no way escape. The tender bud of girlhood blossoms beautifully, and the woman embarks, as it were, on a perilous voyage fraught with storms and dangers. Rocks and shoals lie everywhere in the course of the journey. In her hands is placed a chart, pointing out the way. Danger signals here and there appear, but the inexperienced voyageur knows but imperfectly how to interpret their significance. Finally, we see her nearing the termination of the journey. The point of destination is in view. A dangerous passageway, however, lies just outside the harbor. Many a noble ship has here been stranded. This homely metaphor might illustrate woman's experience from the appearance of the menses at puberty to their final cessation—the menopause.

And now we reach the subject proper. Many names, as you well know, are used to indicate this critical time in the life of woman—the climacteric; change of life; critical period; the menopause. All must experience it. None can escape it. Designate it as you will, it is well known that at this time, all pathological conditions are aggravated. All physiological functions are weakened. Normally, it may be expected that the menopause will appear between the ages of forty and fifty. About forty-five years of age is the computed average, although in special cases, there have been observed wide divergences from these ages. TILT, in that old but admirable work entitled "The Change of Life," gives as a result of observation, that the early appearance of the menses frequently is followed by an early menopause. DISCURET cites a remarkable case in which menstruation began at two years. Marriage occurred at twenty-nine. A large family followed; the menopause not appearing until the age of fifty-three. PROFESSOR SKENE says: "The cessation of menstruation has occurred as early as twenty-one, and as late as sixty-one years of age, but such cases are rare exceptions and may be looked upon as curiosities, and altogether abnormal." BALDY mentions a case wherein the menopause did not occur until the eighty-second year. An investigation is certainly indicated in all marked deviations from the average, as in all probability a pathological condition is present to account for them.

It is universally conceded by writers that there are external factors which have a decided influence on the appearance of the menopause. The social state and method of living, the climate and race, all exercise an effect upon it in a greater or lesser degree. The marked illustration of racial influence is noticeable in the Jews. Although they may be found in all social conditions, in all climes, yet an early menopause is characteristic. It is interesting to note that impregnation has taken place after the final cessation of the menses, thus indicating that menstruation and ovulation are not necessarily connected. The involution that indicates the decline of functional activity in the generative organs, is in direct opposition to the evolution of the same at puberty, and yet there is a close relationship, interesting to trace.

The menopause is best studied under two divisions or stages: (1) The precessation period—from the beginning of involution and irregular decline of functional activity; (2) The postcessation period—from the time that menstruation ceases to the close of involution, and the reestablishment of the normal activities of the body. The duration of each period is about equal and together they occupy on an average from two to three yeears. TILT gives two years and three months as an average, based on five hundred recorded cases. As a result of the involutionary process we find at the final termination a complete change has taken place in the entire generative apparatus. Its vascular supply has gradually diminished, the walls of the vessels progressively decreasing in calibre and thus shutting off the blood supply. The ovaries become shrivelled to the extent that the cite of the Graafian follicles is scarcely traceable. Later, nothing remains to indicate the former existence of the ovary, except a diminutive portion of fibro-cellular tissue. Atrophy of the uterus occurs and the Fallopian tubes frequently become entirely obliterated. Every dimension of the vagina becomes reduced. An hourglass contraction at the junction of the middle and upper thirds is usually present. The mons veneris and labiæ lose their characteristic form and condition, by reason of the reduction and complete disappearance of the adipose tissue found here in such abundance. The glandular structure of the mammary gland disappears, leaving the organ flat and shrivelled. It may be said here in passing that any disease or condition that will produce in a degree the characteristic results of involution will hasten the menopause.

As might be expected, and as you well know, a revolution in nature's operations, sufficient to produce such extensive changes in function and structure, must necessarily have a most potent effect on the life of the woman, and such is the inevitable result. A profound impression varying in degrees of intensity, is made on both the physical and mental portions of her being. As before mentioned, at this time all pathological conditions are augmented. The woman who approaches and enters upon the menopause with a disturbance of the bodily functions, or a structural lesion, does so at her peril. And just here allow me to state most emphatically that a family physician, to whom has been entrusted the physical care of a mother or wife for years, and who has failed to properly instruct such in regard to the dangers through which she must pass, and has not earnestly made an effort to prepare her for the ordeal, has certainly omitted his duty, and is criminally negligent. A doctor should see that a lacerated cervix is repaired. If at some time there has been a rupture of the perineum, a perineorrhaphy is indicated. Do you find an erosion of the cervix? an endometritis? a leucorrhea? Is there a disturbance in the rectum? Hemorrhoids or fissures? A constipation? Is the woman anemic? Is the digestive apparatus performing its normal physiological action? In fact, is she duly and truly prepared for this supreme effort of her life? If not, then see to it that she is.

After all this is done, then there is still much a physician can and should do. Pathological conditions at this period frequently appear suddenly, and your careful supervision should at all times be exercised. Then, too, a multiplicity of peculiar, it might almost be said unexplainable physical and mental disturbances accompany in a greater or lesser degree what might be termed a normal menopause. Much may be done to modify and remove such. Look carefully after the state of the blood, the excretions and secretions. Make waste and repair as nearly equal as possible. Do not be misled by the symptoms. A paroxysmal tachycardia may be caused by a disturbance in the alimentary canal. An examination of the urine occasionally, will ofttimes throw a flood of light on the etiology of many dangerous symptoms. A local congestion of certain nerve centres produces a distressing line of headaches, tremblings, hot flashes, et cetera. Sodium bromide is a remedy based on physiological indications. PROFESSOR J. M. BALDY extols it in terms of highest praise. Have you a plethoric patient? Draw some blood from the arm or cervix uteri, and be delighted at the results. Every patient is a law unto herself, and only the merest hints can be enumerated here. Do not forget the psychic influence of the physician. In the "American Text-book of Gynecology," appears this significant sentence, "Mental therapeutics must not be ignored."

Quite recently, as a therapeutic measure, ovarian organotherapy is being discussed through the medical press. It is based on the following principle: that the ovary deposits in the blood current a peculiar substance which facilitates the oxidization of carbohydrate and phosphorized organic substances.

Jayle claims to have treated most successfully by ovarian extract the conditions accompanying the menopause. Before closing, I wish to refer to the prematurely induced menopause, especially that brought about through the ruthless asexualization (if you will permit the term) of women through the indiscriminate removal of the ovaries by the ambitious, but unscrupulous and unprincipled operator, who has no higher motive than to add to his list of numbers and receive a financial remuneration contributed by his victim. True, the gynecological surgeon, by his skill and daring, has saved countless lives and made many a home happy. But I believe you will agree with me that the language is not too vigorous and can easily find an object of application. Consider carefully what it signifies before you extirpate completely the last ovary. In this connection, and by way of terminating this fragmentary discourse, allow me to quote from **Professor Martin**: "There is physiologically no difference between a woman with half an ovary, and a woman with two ovaries, but there is a great difference between one with half an ovary, and one with none."

EPILEPSY: ITS RELATION TO SOCIETY AND EFFECTIVE TREATMENT.*

By B. ELIZABETH MALONE, M. D., Indianapolis, Indiana.

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By epilepsy we designate a functional neurosis, the exact location of which is yet indefinite, and which is characterized principally by sudden seizures of semi- or complete unconsciousness, which may or may not be accompanied by tonic and later by clonic convulsions. In a broader sense, the term also comprises affections due to cerebral lesions, nerve pressure, or other reflex irritation. It is not the intention of the writer to dwell upon the latter form of so-called Jacksonian epilepsy, otherwise than to say it is a symptom, *not a disease.* Back of the symptom is a cause—look for, and if possible, remove it. Remember it is not sufficient to prescribe therapeutical remedies and leave the rest to nature.

Now we will give our attention to genuine or idiopathic epilepsy, a chronic disorder which is widespread—"which spares neither sex, race nor religion." It is unnecessary for me to mention the features of the ordinary epileptic seizure, as, no doubt, you are all familiar with its series of phenomena from the pitiful aura on to the congested face and later expulsion of bloody froth or foamy saliva with each expiration; so we will pass over the peculiar characteristic symptomatology and proceed to call particular attention to the etiology of this affection.

There is no doubt but that hereditary neuropathic tendencies increase the susceptibility to nervous diseases in general, and certainly is this true of epilepsy to a marked degree. Medical statistics prove that thirty-three per cent. of the cases of genuine epilepsy occur in persons whose parents had suffered with some nervous disorder; but this heredity alone does not suffice to make of an otherwise robust individual an epileptic. Usually an additional agent is essential and a most common one is syphilis. How far venereal excesses and syphilis tend to develop the epileptic neurosis is uncertain, except by increasing the general excitability of the nervous system, by lowering the physical constitution and undermining as it were all the moral stamina of the individual.

Alcoholism is another predisposing factor. By examining the statistics of a large city, it was learned that in eighty-three families in which the parents were inebriates, there were 410 children, of whom 112 (or over one-fourth) were victims of idiopathic epilepsy. A physician of Munich recently noted an epileptoid condition which he aptly termed alcohologenic cardiac epilepsy.

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* Presented at the semiannual meeting of the **TriState** (Michigan, Ohio and Indiana) **Medical Association**, held at Hillsdale, Michigan.

This was preceded or accompanied by dilatation of the heart and was purely alcohologenic, subsiding completely with abstinence from liquor, in some cases and partially in others. As the heart improved the epileptoid condition disappeared.

Autotoxic causation of psychical disturbances also plays an important role in our subject. "Elements of the brain and cord are not likely to become diseased from any cause within themselves; the mental faculties are deranged only when the quantity or quality of its blood supply is changed." The brain may be compared to a garden of rare flowers which are watered by irrigation. So long as the water supply is equally distributed and of proper quality, then does each plant flourish in its perfection, but if the streams or ditch become obstructed, drouth or death will ensue on one side and a cesspool form on the other, causing withered stalks or fungoid growths. Now, if the blood becomes surcharged with toxic elements, well may we anticipate deteriorated brain substance and, sooner or later, elimination by means of a violent and brutal spasm.

Many physicians, weary from daily routine practice, are satisfied by a hasty examination of urine, and noting specific gravity *nearly* normal, with neither albumin nor sugar to serve as danger signals, conclude that this important eliminative factor *is* normal, not bearing in mind that the most dangerous enemies to *pure* blood, namely, the urates, may be retained within the system. We should also remember that although no traces of these may be discernible *before*, we will find them in great excess by analyzing the urine *after* an epileptic attack.

The pathogenesis of this disease is obscure; although the source must be sought for *in* the brain, the *exact* location is yet enveloped in mystery. **PROFESSOR KRAINSKY** asserts that there is a close and constant connection between the excretion of urea and epilepsy. Each attack is preceded during twenty-four to forty-eight hours by a diminution in the amount of urea excreted and so long as 0.6 to 0.8 grams (per fluid ounce) is eliminated daily there is no danger of a seizure, but if the quantity falls to .45 or .35 grams one is imminent. Animals injected with the blood drawn from epileptics during an attack, were affected with paralysis and periodical seizures terminating fatally in four to eight days. As injections of carbamate of ammonium produced exactly similar attacks, he ascribed these due to an accumulation of this salt in the organism, and which, during the spasm, is transformed into urea and water. His logical reasoning harmonizes with the well-known favorable effects of potassium and sodium bromide, as they form with it the harmless potassium and sodium salts of carbamic acid.

PROFESSOR PRUS, of Lemberg, claims that there are no special centres which are exclusively the seat of this disorder, nor is there any essential difference between cortical and genuine epilepsy. May we not consider it rather a symptom due to cumulative irritation of the cortex, presuming that said irritation may be hematogenic, reflex or traumatic, and the various neuroses corresponding to different grades of the same condition affecting its subjects differently?

At the onset we naturally inquire: "What is the condition of the nerve centers that results in such a vehement outburst?" The generally accepted view is, that the seizure is due to a violent discharge of nerve force, resulting in unconsciousness or convulsions or both. The physiological functions of a nerve cell are to store up and guardedly expend its force. During health this discharge is regulated according to stimulus, but in certain morbid conditions the cells become unstable and discharge spontaneously without a stimulus. This is a theory only and cannot be demonstrated, but it accounts for the phenomena and we should not despise theories, for they are the foundations upon which all our medical science has been built and are necessary to progress. They may often bear but slight resemblance to the facts to which they lead, yet they hold the lanterns for us while we hopefully and diligently pursue our researches.

Doctor Lewis found there was a degeneration of the nucleus of the nerve cell and as this is the inhibitory centre presiding over its vital changes and functions, may we not look for perverted function, exhibited in wasteful explosions of energy? He moreover found the same morbid metamorphosis in alcoholic insanity, which has many features similar to epileptic insanity, especially in its explosive nature. Not only are the functional channels devastated, but destruction of the delicate nerve tracts ensues and thus by exhaustion and repeated disruption of structure, development of brain substance is checked. If the spasms continue, this arrested growth and degeneracy is progressive and involves a pathological process, namely, the production of sclerotic tissue as we find it in the brain of the senile, chronic insane and epileptic subjects. This is an overgrowth of neuroglia, which is supplied at a low cost of vitality and which nature uses to fill the vacant spaces formed by decay.

Next we will consider the relation of idiopathic epilepsy to society. Would that every layman and woman was interested in this subject as also the medical fraternity. Experience teaches us that this neurosis usually continues for years and even decades of years; moreover, that the common sequelæ are imbecility and insanity. As a rule, it is the physical part of the poor victim which suffers most unpleasantly. As far back as to almost "time immemorial" the individual afflicted with the "falling sickness," as it was commonly termed, has been regarded with repulsion and aversion by his more fortunate brethren. To understand why, we must note the mental changes, termed the psychical stigmata, which transpire.

At first there is the slightest dulling of the intellect such as faulty judgment, difficulty in grasping and comprehending ideas, failure to fix attention and recollect recent events. These are the primary steps in the long descent of brain deterioration which terminates in hopeless obliteration of the mental faculties. Usually we observe somatic or anatomical defects also, such as abnormities of the skull; peculiar condition and irregular formation of the teeth; high and narrow palate; upper extremities in undue proportion to the lower; unequal innervation of the facial muscles on the two sides and depressed temples. Again, we may note the physiological marks; for example, the weak heart, unstable vasomotor innervation, deranged digestive organs, and sexual weakness or perversion.

Moral degradation goes hand in hand with the mental; indeed, when we consider that these unfortunates are generally the offspring of parents bearing records of syphilis, inebriety, epilepsy, or of criminals, especially of malefactors, we should expect no purer record from the children.

While I was a senior medical student, a young man, twenty-one years of age, came in as a clinical subject, who manifested that characteristic shambling gait; downcast face with hangdog expression; nerveless, twitching, clasping hands with thumbs turned inward; right side of face much smaller than the left; internal strabismus of the right eye. To the professor's question as to age, he stammered: "Well, I guess I is just two months younger than how old I am." He informed us that he had attacks "at each new moon," and frequently during the night. He had been addicted to self-abuse since early childhood, and was only one of the many victims of epileptic imbecility which I beheld in a large city.

Are epileptics truthful? No, we have no foundation for believing their statements, even if sworn to on the witness stand: "The truth is not in them." History, ancient and modern, furnishes us with numerous examples of their perverse characteristics and upholds the statement that fitful brilliancy of mental powers has also been associated with this neurosis. Swedenborg, Mahomet, Napoleon I, the poet Byron, Julius Caesar, Alexander the Great, John Bunyan and many others were fitting types of fully developed geniuses of the first order who were subject to epileptic seizures and passionate anger in which they lost their entire self-control.

Napoleon Bonaparte was indeed a striking illustration; he was entirely lacking in moral sense. For arranging, directing and mastering the practical affairs of life and of a mighty nation, his incomparable and lively passions formed a tremendous force and this force was his unlimited selfishness. Man, according to him, is dominated with his same base passions of fear, cupidity, self-love and emulation. NAPOLEON never departed from these ideas; they were a part of his character. His passions, reflected in ambition, held sway, obliteriug his conscience, and ambition finally caused his downfall. To quote his own words to JOSEPHINE: "I am not like other men; moral and social laws were not made for me." No, not like other men, but most assuredly like to other epileptics. Nor was an hereditary cause lacking. His father drank alcohol to excess, and died young of a cancerous affection. He also was talented, intriguing, deceitful and almost destitute of moral principles.

There is a condition termed epileptic automatism, which is of great interest and forensic worth. It may replace or be a sequel of an attack. During this time the subject will do many silly, serious or criminal acts. One person enlisted as a sailor in New York and suddenly realized what he had done while on mid-ocean sailing toward London. Others have stolen, committed homicide or arson, picked pockets, et cetera, while in this state. Many epileptics, although not actually insane, are never normal; others are subject to fits of passion or violence and desire to strike or kill some one. One man, who had seizures from early boyhood, was considered harmless and lived at home. One day he suddenly became furious and killed both his parents with an ax. He refused to give any explanation of the crime; no doubt it was perpetrated during an attack of epileptic frenzy.

Should the existence of this disease render a person irresponsible for criminal acts? Here is an important medico-legal question. A prominent expert says: "No rule applicable to *all* cases can be established; each must be carefully studied and judged according to special indications." I will be egotistical enough to give an opinion unreservedly and say: Nó, they are *not* responsible if severe cases. The Roman law exempted *all* epileptics from responsibility during the three days before and after an attack.

The important question now is, how shall we lessen or overcome this disorder, if not curse, which is widespread and affects us all? Why "affects us all?" Because it is a principal etiological factor in producing crime and immorality, and, as "our brother's keeper," each of us, whether physicians or ordinary citizens, should exert our united efforts to suppress evil. Here we deal with conditions not suppositions. Heredity is the great causal factor of crime.

"There is no family tree to be had,
Shady enough to conceal what is bad."

Blood will tell, and does tell. Imbecility is very frequently an accompaniment of epilepsy, and is the legitimate offspring of the nation's prisons, jails and insane asylums. DOCTOR MCCASSY has published some valuable figures relating to inherited vice propensities. He says: "What a remarkable lesson there is presented in the case of MAX JUKES, of New York state. He was a Dutch settler, born in 1740, a hunter and fisherman. He was a pronounced inebriate and the progenitor of twelve hundred persons, nearly all criminals, vagabonds, paupers and prostitutes. During seventy-five years his decendants committed one hundred and fifteen criminal offenses and ten of them learned trades in prison. This family cost New York state one million dollars."

Inebriety in the parent may not be followed by drunkeness in the offspring, but epilepsy, kleptomania, hysteria or apoplexy in the mother, usually is followed by insanity, epilepsy, et cetera, in the child. "Verily we must not expect 'to gather roses from thistles, nor grapes from thorns,' and an established law is, that induced conditions are liable to be transmitted." "The laity should know that persons tainted by these mental and nervous derangements, as likewise vices, are very liable to beget a progeny of physical, mental and moral degenerates." The instances are rare, indeed, where family traits, virtues or vices, are not inherited.

Success in commercial enterprises, industry and thirst for knowledge have been, throughout many generations, as noticeable a birthright among the Hebrew nation as filial devotion and respect have been the main sources of the strength of its character. In striking contrast is this to the innate indolence, domineering pride and arrogance which are the predominating characteristics of the haughty nation who hail from the vine-clad hills of Spain.

It is a noticeable defect in our civil laws, a blemish on the bright pages of human intelligence that marriages are permitted among those not showing freedom from taints of insanity, epilepsy, inebriety, active tuberculosis, all venereal diseases, as also the blind, deaf and mute. The public good demands that each person wishing to contract marriage should undergo examination by a legally qualified physician, who would require the party to file a certificate confirming exemption from said defects.

"Every child has the right to be well born," and the greatest kindness to the defective is to prevent him from being born. When our law-making bodies devote less attention to politics, and more to the humane welfare of those who send them to the legislative halls, they will give this subject consideration; meanwhile, we, as physicians, can do much by agitating the matter, also toward securing an appropriation from the state for the maintenance of epileptic farms or colonies.

This suppression of faulty marriages we may term the preventive treatment. Therapeutically considered, "it is probably the most disheartening condition that the physician has to deal with, since it often resists the influence of all standard remedies, until we hope to find one which will be at least alleviating in its effects." The bromides, in large doses, used with discretion, are perhaps the most efficacious. Curare, as also carbonate of lithium, have recently given satisfaction in certain cases. Injections of erysipelas antitoxin met with gratifying results among the male cases in the Central Hospital at Indianapolis. Particular attention must be always observed with regard to cleanliness, active condition of the bowels, nutritious diet and outdoor exercise. **Berillon** recommends hypnotic suggestion, having witnessed remarkable modifications in the neurotic character, by suggesting to resist their impulses and to neutralize automatic habits; the number of attacks also decrease. This treatment is not applicable to the insane or imbecile subjects.

But above all other provisals, we should have state farms and colonies for these unfortunates. The colony at Gallipolis, Ohio, founded in 1893, has achieved beneficial results. **Doctor Rutter** calls attention to the improvement in personal appearance and manners produced by the mere fact of association, as here the patient must exercise self-restraint. The social influences of the institution are manifest even in the most degraded and especially in the younger cases.

Those who have had an epileptic in the family know what a burden of care is imposed by constant necessity of watchfulness. Here safety comes from their being together. When the aura is heard, aught else is forgotten and the others rush to the aid of the one attacked, and for over two years no serious accident has occurred among the more than eight hundred treated. There is great increase of brotherly love and happiness among them, and the weary hours are lightened by various kinds of employment. The number of attacks have been reduced over thirty per cent., and at the close of the last fiscal year fifteen patients were discharged cured, as upwards of two years had elapsed since the last attack.

Favorable reports are received also from the English colony at Chalfont. This is to give employment to both males and females who are unable to obtain work, or who are discharged from remunerative positions on account of their affliction. The principles which direct the management are simple. First, removal of the epileptics from the town to the country; second, regular employment and trade-learning under direction; third, the maintenance of a well-ordered and regular mode of life, with avoidance of excitement and abstinence from excesses and alcoholic liquors; fourth, abundance of nourishing diet of a simple nature. The general result is, that in the majority of cases, the attacks diminish both in number and severity, and frequently to an extraordinary extent; the physical health materially improves, while the mental condition, except in rare cases, shows obvious improvement. As to the extent of moral benefit received we feel assured that it cannot be too highly estimated. By these means the majority of epileptics are taught to be useful, God-fearing citizens.

INFECTION FOLLOWING CIRCUMCISION IN HEBREW CHILDREN, WITH REPORT OF TWO CASES.*

By ISAAC L. POLOZKER, M. D., DETROIT, MICHIGAN.

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I HAVE had many opportunities of witnessing, both in this country and abroad, circumcisions performed according to the Hebrew method. The method is alike in both countries, and I will here describe, briefly, the operation as I have seen it performed in one of our local synagogues a few months ago.

You are all aware that the Hebrew law, descended from MOSES, prescribes that all male children should be circumsized on the eighth day after their birth. The only exceptions made are when the child is very sick at the specified time (the operation is then postponed), or the mother has lost two boys in succession from the effects of the operation, in which event the third boy is allowed to go uncircumcised. The man that is detailed to perform this operation among the Hebrew children is called a mayol. He is very often also a butcher. The mayol that performed the two operations in succession (which I will refer to later) in the synagogue, was about sixty years old and very unclean in his habits. He used an ordinary kitchen table, uncovered, a glass of water containing a few drops of carbolic acid, common yellow cotton dusted with subsulphide of iron, and a sharp, double-edged knife. As I have said, these men are also butchers; that is, they kill chickens for the Hebrew people, and some of them use the same knife for the purpose. His hands, when he was ready for the operation, were not only unprepared antiseptically, but they were not even washed clean. The parts for the operation were also unprepared. Another man who is especially privileged for this purpose, sitting on a table, holds the child on his lap and with his hands spreads the child's thighs apart. The mayol or operator sits on a chair between the child's legs. He first brings the foreskin down and with the double edged knife cuts a circular portion off, then with his finger nails he tears the mucous membrane and brings it around the glans penis; then another man, also privileged, takes the penis in his mouth and sucks off the blood. The mayol then puts cotton with his styptic around the penis and bandages it up. Some mayols do the sucking off of the blood themselves, and use other styptics than iron; some also employ a little clamp to hold the foreskin.

This procedure was done very quickly, but still the mayol was afraid of hemorrhage and asked me to watch the patient, and stop the bleeding. The after treatment consists of applications of cold water and styptics, some administering paregoric. In Russia I have seen them use dust from old wood. They go into an old barn or house and collect the dust from worm-eaten or rotten timbers and use it as a styptic.

It is hardly necessary for me to say that the operation of circumcision should be done as carefully as an abdominal section. EDMUND OWEN in his little book, "The Surgical Diseases of Children," says: "Before the operation of circumcision the physician should satisfy himself that the subject is in a good state of health, otherwise extensive inflammation and abscess may supervene, or the case may end fatally. Great care should be taken that all instruments used during the operation are absolutely clean, and that the surroundings of the patient, after the operation, are in a satisfactory hygienic condition." He says further: "I have known two children in one family to die of blood poisoning after circumcision performed by a careful surgeon. It was afterward discovered that the soil pipe was leaking into the wall of the bedroom." This was written by OWEN in 1785. We are now at the close of the ninteenth century and still such operations are performed in a septic way.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

I will now give you an account of the two cases I mentioned in the beginning of this paper, one of which ended fatally:

Case I.—H. G. This child, a boy, was born October 2, 1898, at about 8 P. M. I attended the mother in labor and the delivery was normal. I examined the infant very carefully and found it well formed; weight, nine and one-half pounds. I washed the child myself and afterwards made a second thorough examination of him, but could find no abrasion. The child was seen by me twice a day until its death. It was put to breast at the proper time, its bowels moved regularly, and as it was apparently in perfect health circumcision was performed on the eighth day in my presence. On this occasion the mayol took extra precaution as to cleanliness. Without cleaning the parts, however, he pulled the foreskin forward and put on a retractor, which is not used in all cases. As I have already described the *modus operandi* it is unnecessary to go into details again. When the mayol had finished the crying child was taken to its mother. I was called later in the day to stop the hemorrhage and the child's constant crying. I noticed the penis had turned blue and the parts were swollen. I did what I could to stop the hemorrhage, but was not allowed to put in any stitches. I could not stop the crying. The mayol called later and continued his cold applications. Finally, I allowed the mother to give the child paregoric, and in twenty-four hours after the operation it quieted down but was constipated, and later I noticed an eruption—first around the genitals—which was vesicular in character, with an areola around it, but later it increased to the size of a pustule, and a crust formed over it. This received my immediate attention. I cleaned the parts well and used an antiseptic powder. To relieve the constipation I gave the child one-twentieth grain of calomel and one-fiftieth grain of pulverized ipecacuanha. It was then getting its nurse every two hours, but it was soon noticed that the child would not take the breast. On examining its mouth I found a few small sores on the roof, and on the following day almost the entire body was covered with an eruption similar to that found on the genitals. It was more marked upon the buttocks, where it looked like gangrenous dermatitis.

During the entire period the child was fairly well nourished. I was at a loss as to a diagnosis. However, I suspected infection from the circumcision. Thorough treatment was at once commenced but the child grew rapidly worse. The lesions were spreading, coalescing together, and surrounded by dry, brownish crusts. The eruption soon appeared upon the hands but the forehead escaped it. In spite of careful watching and attention the child died on the fifteenth day after the circumcision. After death the body turned blue and early decomposed. A postmortem was not allowed.

Family History.—I am personally acquainted with the parents. They are Russians. The mother is about thirty-five years of age and in good health. I am also acquainted with the mother's family. They are all healthy people, free from tuberculosis or syphilis. The father is about thirty-eight years old and enjoys good health. He never had gonorrhea, syphilis, tuberculosis or any infectious or contagious disease. They have four children, three girls and one boy, ranging in age from five to twelve years, and all enjoy the best of health. The boy was circumcised in New York City, and had no trouble whatever.

Case II.—H. F., boy two years and five months old. I first saw him on November 28, 1898. The mother brought the child for treatment for an eruption which covered his entire body, but was more marked around the genitals and on left side of the neck. The lesions on the body, back, shoulders and extremities were marked by a pustular eruption, surrounded by a coppery areola. They were dry and did not appear irritable. They were arranged in groups but did not infect the face. The lesion on left side of the neck was one large, red patch, undefined in outline, attended with slight swelling and great itching; also a great deal of moisture. The mother said there was often a fluid discharge, but otherwise the child appeared perfectly healthy; bowels regular, appetite good. Urinal examination showed nothing abnormal. The child has a large abdomen.

History as Given by Mother.—This is the first and only child. Born normal. Delivery attended by a midwife. After birth he was very clean; had no eruption of any kind until circumcised according to Mosaic law on the eighth day, in Buffalo, New York, by a mayol. The second day thereafter the child broke out with an eruption on the genitals and thighs, extending to the pubis, and, as she describes them, they were little pimples. She applied zinc ointment but it was not effective. These pimples on the third day were rubbed off and the parts looked like raw meat. The eruption at this time spread no further. When the child was three weeks old, that is, two weeks after the circumcision, it was for the first time taken to a physician in Buffalo. He prescribed ointments and dusting powder, which, as far as I can learn, did no good. When the child was one month old an eruption appeared behind both ears, and the lesions looked like the one on the neck at the present time and contained bluish matter. The mother of the child was then taken sick. She had rheumatism, and mother and child were removed to the Buffalo General Hospital. There the child was treated, both constitutionally and locally, with pills and ointments without noticeable improvement. The eruption was then very marked on the neck, ears and genitals. I cannot describe the nature of the lesions, as the mother does not remember their appearance. The child was then taken to another physician who prescribed a wash and some yellow ointment. Under this treatment the lesions behind the ears disappeared. The one on the neck also disappeared, but it broke out later on the right side. Since then the child's skin breaks out very often on different parts of the body, and each time different lesions appear. The boy nursed at irregular intervals until sixteen months old; since then he has been fed and eats everything, occasionally being given beer. The father is healthy and has never had any eruption. The mother is also well, and with the exception of rheumatism has never been sick.

When seen on different occasions the eruption on the body looked to me like syphilis, and that on the face like eczema erythematosum. To confirm my diagnosis I put the child on a tablet containing one-eighth grain of protoiodide of mercury three times a day, without other treatment. In one week a decided improvement was noticed in the eruption on the body, but no difference in the lesion on the neck. I then prescribed the same medicament four times a day until I saw the child again one week later. There was continued improvement in the eruption over the body but no change was apparent in the neck lesion; and after three weeks' treatment, using only one-eighth grain of protoiodide four times a day, the eruption on the body has entirely disappered, and only the coppery areola remain where the lesions were. At the time of writing this paper the neck is about the same. This goes to prove that the neck lesion is different from that on body, and I intend treating it locally.

In my mind this trouble can be clearly traced to infection at the time of circumcision. It is unnecessary for me to enumerate all the sequelæ following infection from the operator or surroundings in such a minor operation; suffice it to say that such dangerous diseases as syphilis, tuberculosis and other mixed infection has followed circumcision, and has been traced directly to the surgeon or mayol.

Now, the question is, what shall be done to remedy this evil? We all know that this is a law given to the Jewish people by Moses, and therefore we should respect it, and I, for one, have always respected it. We all know the benefits children derive from the operation of circumcision, but some of us, possibly, do no not fully realize them until later in life when we have to deal with masturbation, on account of a long prepuce, or with paraphimosis, et cetera. It also keeps the organ cleaner. I have noticed many persons do not take proper care of their genital organs. It is a great advantage when we treat a man for gonorrhea. I think it is easier to take good care of him if he is circumcised. There are also numerous other advantages. If so, why not perform the operation when the child is eight days old; and as the law says there should be a mayol who shall circumcise, let him do it. But why not be clean? Why cannot he be abreast of the surgeon of the nineteenth century in using antiseptics and making an aseptic operation? The Hebrew law is not against the use of antiseptics; not any more than in using styptics, for they are drugs. In fact the law says distinctly that the child must be examined carefully as to its health before operating. Why not, then, call in a physician and have his opinion as to the child's condition? This, I think, would prevent a good deal of unnecessary sickness and disease, and moreover many lives.

The aim of my paper and the object of my calling your attention to these two particular cases is to ask your hearty cooperation in educating the Jewish families that come under your care, and especially the mayols, to a proper sense of the necessity of cleanliness and the use of antiseptics in performing the operation of circumcision. I say again, as it is a law it should be respected, and we do respect it; but altogether too many children—more than are reported—die from the after effects because it is done in a septic way.

161 Adams Avenue East.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, NOVEMBER 12, 1898.

The President, CHARLES DOUGLAS, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Levi J. Lennox read a paper entitled "Contracted Kidney." (See page 165).

Doctor Chapoton: When I saw the patient to whom the doctor refers, the thing that immediately attracted my attention was the peculiar color of the individual. It suggested chronic Bright's disease—that peculiar tint. The next thing was the remarkably slow pulse, and then the high tension of that pulse, indicating very clearly a condition of arteriosclerosis. In regard to the original history of the case I did not know much of it until afterward. In reference to syphilis affecting the kidneys: It is not at all remarkable that occasionally these organs should be involved like almost all other organs of the body; and peculiarly like alcohol, syphilis has a wonderful propensity to stimulate growth of connective tissue. I have known several instances wherein the eruption observed in the second stage of syphilis has occurred upon the sexual parts, and have asked the patients whether or not they had previously had a primary sore. I do not believe the disease is really ever cured. Following these cases it was thought that the eruption was simply one phase of the second stage. Some years ago I had a young man present himself to me on account of an harassing cough which was particularly dry. Examining him very carefully, the lesion that was causing the cough was detected in the upper lobe of the left lung, and I thought I had a case of tuberculosis. The temperature verified my opinion regarding the consolidation. Tubercular treatment proved of no avail, and after the condition had progressed for some time the thought suggested itself that this young man had been a pretty lively individual, and might it not be possible that syphilis was causing the trouble? I placed him upon fairly large doses of potassium iodide, and perceived some improvement. I increased the dose, and under the influence of twenty-five grains four times a day it was simply remarkable how quickly that sclerotic condition of the right lung disappeared. He did not die of phthisis. Like DOCTOR LENNOX I feel about the effects of syphilis as GULL and SUTTON look at chronic interstitial nephritis or arteriofibrosis: that it is simply an expression of a general diathesis, the poison affecting all the other organs just as well as the kidneys, and in consequence we have the other symptoms of interstitial nephritis. I have been surprised at the paucity of literature on the subject of syphilis affecting the kidneys. I think that if one has a history of a preceding attack of syphilis, and then the symptoms of interstitial nephritis manifest themselves without any albuminuria, I would think very strongly that that particular nephritis was due to syphilitic poisoning.

DOCTOR ROBBINS: I must say that I have been unable to see or appreciate the possibility of distinguishing chronic interstitial nephritis due to syphilis from a chronic interstitial nephritis due to other causes. Some of the later authors have something to say in regard to syphilis showing itself through the kidneys. It is not uncommon to find albuminuria occurring during the secondary stages of syphilis. If it is not uncommon to have a condition of acute nephritis following soon after the appearance of a chancre, it seems to me just as possible for a chronic form to be observed later. Almost all of the cases of contracted kidney are due to a chronic congestion of that organ and finally contraction, very much as a chronic inflammation of the liver finally forms a hobnail liver. There is one point I wish to bring out: Nothing has been said of the possibility of mercury causing interstitial nephritis. Lead poisoning has been spoken of as a cause of interstitial nephritis, but I think if the author of the paper will look at WHITE and MARTIN upon the subject of Bright's disease, he will find that mercury is very apt to produce a condition of nephritis. We should take this into consideration in treating syphilis. WHITE and MARTIN say we should never undertake to treat a case of syphilis without making frequent examinations of the urine.

DOCTOR INGLIS: The relation of syphilitic poison to contracted kidney is by no means clear. DOCTOR CHAPOTON has given an illustration of rapid syphilitic disease of the apex of the lung. The consolidation spread rapidly in spite of treatment based on the theory of tubercular causation and as rapidly disappeared under antisyphilitic treatment. It is true that such a lesion might conceivably end as a case of fibroid phthisis, but it seems to me that it would be far more likely to end in necrosis of the lung and be classed as quick consumption. To make the analogy complete between DOCTOR CHAPOTON's case and that of contracted kidney we would have to assume that contracted kidney followed an acute syphilitic nephritis. Now, the peculiarity of contracted kidney as we meet it is that it comes without notice. There is usually no history of preceding renal disease. On the contrary we do not learn of its existence until the chronic process has so far impaired the kidney that general symptoms due to uremia call attention to the trouble. In DOCTOR CHAPOTON's case he was able to answer his question, Is the lesion in the lung syphilitic? by a quick course of iodide of potash. We cannot get any such answer in contracted kidney. That syphilis is capable of setting up processes of arterial degeneration and increase of connective tissue in any and every part of the body, kidneys included, we need not doubt. The trouble is that these processes occur long, long after the specific virus has exhausted itself. The young man sows his wild oats, has his primary, secondary and tertiary syphilitic difficulties, reforms and settles down as an eminently respectable, well-behaved citizen. Then ten, twelve or fifteen years later he develops locomotor ataxia or general paresis or hemiplegia. We have learned to regard these lesions as sequelæ of syphilis, but they are not syphilis. They do not yield to antisyphilitic treatment. In precisely the same way I readily agree that contracted kidney may be a sequela of syphilis, but only the study of a large number of cases will enable us to trace the connection. Such a study does not seem to have been made, for the literature of syphilitic nephritis is wonderfully meager. **Doctor Lennox** has done a valuable service in calling our attention to the subject. I hope he will, by the publication of his paper, arouse many observers to the study of early and late syphilitic renal lesions. For the present, with the meager knowledge we possess, I think it unsafe to conclude that uremia without albuminuria is indicative of syphilitic contracted kidney.

Doctor F. L. Newman: There is a ltttle therapeutic error that I have noticed once or twice in the treatment of these cases. In cases of contracted kidney in which the arterioles become more and more contracted and the blood pressure continually rises, as the hypertrophy of the heart gradually gives way to a dilatation and the heart's action becomes more and more labored and irregular, the temptation seems to come in to help the failing heart along by the exhibition of digitalis. I think it will be easily seen that such a course would be a dangerous one to the patient.

Doctor Lennox: I have been very much interested in the discussion and feel that I have not failed in my object of writing a paper for the purpose of having the subject so ably discussed by men who are competent. I did not suppose for a moment that I would suggest many new ideas on the subject of contracted kidney. The question was suggested to me by a number of cases that I had seen which were undoubtedly of syphilitic origin. In the particular one referred to this evening there was no doubt but that syphilis was the cause of the condition. With regard to the treatment of syphilis by mercurials causing a contracted condition of the kidney, that is no doubt quite possible, the same as lead and lead poisoning, being an irritant, although I have not had my attention drawn to that subject. Authors say that we have in syphilis the permanent symptoms of acute Bright's disease. With regard to the different opinion of authors of which we read in the pathology of this disease the most noted men seem to differ with reference to hypertrophy of the heart, some saying that it is due to the increased pressure, while others say it is not an accommodation to the work but degeneration. It is a subject that is very interesting and I do not think anyone knows it throughout its whole extent.

STATED MEETING, JANUARY 9, 1899.

The President, CHARLES DOUGLAS, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Eugene Smith read a paper entitled "Mercurol—A New Germicide." (See page 178.)

Doctor G. Suttie: As I am in the transition stage between a specialist and general practitioner I have probably had more varied opportunities than **Doctor Smith** has had of testing mercurol. I first used the remedy as a substitute for iodoform in the case of a patient who had recently had an operation performed for artificial anus. The smell of the iodoform was so distasteful to the rest of the household that it was imperative to get something to replace it which did not have an odor. I had recently been given the sample of mercurol and tried it with perfect success. It produced no irritation, had no smell and was in every respect appreciated as a worthy substitute by both patient and friends. I employed it as long as my sample lasted. My next case was one of stomatitis in a nursing woman. Her case had already been in the hands of two of our most prominent physicians, who had been called in consultation with the attending physician, but to no purpose. Among other procedures the abrasions had been burned with caustics, but I found her unable to eat, scarcely able to talk, and I was rather afraid that I would receive my dismissal as the others had, for they were older practitioners. I at once thought of my sample of mercurol, and gave her about a drachm of it with directions to dust it on every three hours. I was asked for more a few days afterward, and was gratified to learn that the mouth was considerably better. I called the next day to see if the condition was as represented and found the mouth almost well. I never saw a patient more overjoyed at results of treatment. A case of erysipelas was my next in which to employ mercurol. It was rapidly spreading up the limb, having originally started from a too much pruned and irritated corn. All I applied was a half per cent. solution of the preparation on a cloth covering the infected area. It had a soothing feeling to the patient, and was observed to control the spread of the invasion immediately. It healed very rapidly. I tried it a number of times on cut fingers and other minor surgical cases, and found it always acceptable as a dressing. In several instances the dressing did not require a change. I had occasion to try the half per cent. solution in a case of gonorrhea with such success that after forty-eight hours the patient said he was cured. I directed him to use it longer, but I now think his statement was correct, as no further trouble was experienced. With regard to its use in ophthalmic practice, I am at a loss to say whether or not it has proved of benefit in the ordinary cases of conjunctivitis. I tried it in one and five per cent. solutions, but failed to see that it acted better than the remedies usually employed. I had more excellent results with it in a case of specific iritis in which vision was $\frac{5}{200}$ on beginning treatment. The patient is still taking the preparation, his vision being now $\frac{20}{40}$ with correcting lenses. This was the first case in which I had given it per os and the result was extremely gratifying. It was ordered in one-half per cent. solution in one drachm doses. I think mercurol is in the market to stay. It is certainly capable of manifesting the specific action of mercury in specific cases. Its solution (in normal saline solution) is highly antiseptic and yet comparatively unirritating. Its application in powder form, full strength, I have found to be equally benign.

DOCTOR MANN: While I have not had sufficient experience in the use of the remedy to give such results as DOCTOR SMITH has, I am favorably impressed with its value. The record of my cases consist of five of chronic urethritis, two of acute gonorrhea, and one of mucous patches. I have used an injection of the strength of one-half of one per cent. mercurol for chronic urethritis with very happy effect. It has certainly given me great deal better results than protargol. The use of it in acute gonorrhea I consider to be very happy indeed. It seems to mitigate the disease very quickly. I commenced the systematic use of it in a case of syphilis by hypodermic injection, but cannot say anything as to the final results as yet. In the treatment of syphilis in this manner we have a remedy which is particularly unirritating; no pain, no unpleasantness. Whether the virtue of this remedy is due to the nuclein or mercury contained in it, we cannot positively say.

DOCTOR ROBBINS: I suppose we have no hesitancy in discussing a patent medicine. I have had some experience with mercurol, and while I think a great deal of the remedy, I am not so enthusiastic as some of the speakers who have taken part in the discussion. The point DOCTOR SUTTIE mentions—that in a case of gonorrhea it stopped the discharge in forty-eight hours—has no weight with me. Gonorrhea is not cured when we stop the discharge. Where it is safe to use a mercurial injection mercurol seems to be of benefit. I believe it is a valuable remedy in cases of acute gonorrhea. In several cases of the later stages of urethritis I have used protargol solution, and also mercurol solution, and I have not noticed any decidedly beneficial effect from the use of either of them. I am very suspicious that many of us hold that we have cured these cases of acute gonorrhea when we have succeeded in stopping the discharge. Such is not the case. I treated a case of ophthalmia neonatorum with a two per cent. solution of mercurol, continuing the treatment four or five days, but the condition became neither better nor worse. I then turned it over to DOCTOR GILLMAN. It is not a specific in cases of ophthalmia neonatorum in which there are gonococci present. As **Doctor Mann** says, it is a good remedy to be given hypodermically.

Doctor Don. M. Campbell: In view of the fact that we have had so many wonderful remedies presented to us of late, I think it is to be regretted that we have not had given to us here a scientific bacteriological study of this remedy. We had protargol presented to us during the past year, coming particularly from the hands of a Parisian, with very glowing accounts of what it would do. It may have done for him what he claimed it would do, but in the hands of most physicians it has not come up to expectations, nor has it done anything like what **Dorsi** claimed for it. It is to be regretted that **Doctor Smith** has not given us the exact method employed by him in its use, because we will all use this remedy more or less from now on, and will apply it in different ways, and probably meet with a varying amount of success. For my own part I have been disappointed in the use of the remedy. I have used it in phlyctenular inflammation of the conjunctiva; it has done absolutely nothing. In chronic inflammation of the tympanic cavity I do not think I had any results whatever. In cases of acute inflammation of the tympanic cavity it is very hard to judge of the value of any remedy, because with cleanliness they get well in a very short time.

Doctor Emil Amberg: By courtesy of **Doctor Smith**, I had a chance to try mercurol on a patient with chronic suppurative middle ear. It produced a dilatation of both pupils which lasted less than an hour. I am rather inclined to think that the dilatation was caused by resorption of one of the parts of the remedy and not by reflex, because the pupils did not show dilatation after another remedy had been used. One case, however, does not prove much. I should like to know whether any of the gentlemen had a similar experience. Speaking as an aurist, I fear that many a practitioner by trusting in the superiority of this new remedy might be tempted to try it on patients who ought to be operated upon, and thus valuable time might be lost. It is a fact that some ear patients come too late for an operation, and I think **Doctor Smith** might be able to illustrate this by cases in his practice. My experience with the new remedy is too limited to say more about it. The number of cases successfully treated, which have been reported, entitle us to give the remedy a trial, and I hope it will stand the test.

STATED MEETING, FEBRUARY 20, 1899.

The President, CHARLES DOUGLAS, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Walter P. Manton read a paper entitled "Hypertrophic Elongation of the Cervix Uteri." (See page 162.)

Doctor John Bell: I would like to ask **Doctor Manton** if he can explain the etiology of this condition?

Doctor Longyear: I have never seen a case that I could really say was one of elongation of the cervix. When I was house physician at Harper Hospital I had a case which I thought looked like it. I removed the elongated portion with the galvano-cautery but I afterward changed my mind and concluded it was simply a case of elongation of the anterior lip. **Emmet** and others say they have never seen a case of elongation of the cervix and he is a man of very large experience. I met with a case from Harper Hospital Polyclinic in which I had a suspicion that it was one of elongation of the cervix. She had never had children. The cervix protruded down well into the vagina. I replaced it with the woman in the knee-chest position. I found also that the uterus was retroverted, was in an unusually soft condition and seemed to be stretched out. I performed the operation of ventral fixation as an experiment. She returned to my office four or five months after the operation and reported that the uterus had not come down any more. I found on examination that the cervix was still rather low but not enough to interfere with her comfort. She has not returned to me since then. I thought that really there was no such thing as elongation of the cervix, but **Doctor Manton**'s case, as exhibited here, seems a pretty good argument that such a condition does exist. It must be exceedingly rare if a gynecologist of such large experience as **Doctor Emmet** has never recognized it. **Doctor Manton** is to be congratulated upon not only having seen this case and reporting it in such an excellent manner, but also for the opportunity of obtaining a photograph of the whole organ so fully and completely.

Doctor Manton: These cases are rare. I do not believe that because men of large experience have never seen a case of elongation of the cervix that such a condition does not exist. The case which I have just reported showed a permanent change in the structures. I was a good deal surprised to find in **Dudley**'s book that he followed in the footsteps of **Emmet**. In answer to **Doctor Bell**'s question, I do not know that I can throw any particular light on the etiology of this condition. The congenital form is difficult to explain. Nobody knows why it arises. It is supposed that the infantile cervix gets a wrong start. The cervix in the fetus is out of proportion to the size of the fundus. In women who have borne children it is supposed to be due to subinvolution of the uterus. I am very glad to have been able to bring something before the society which is not a common condition.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, FEBRUARY 2, 1899.

THE PRESIDENT, *pro tempore*, E W. JENKS, M. D., IN THE CHAIR.
REPORTED BY WALTER J. CREE, M. D., SECRETARY.

DISCUSSION OF PAPERS.

Doctor Samuel Bell read a paper entitled "The Relations of Some Physical Conditions to Mental Aberrations." (See page 170.)

Doctor Walter P. Manton: I regret that I was late, and therefore missed the first part of the paper on a subject in which I am deeply interested and have been for many years. I think I may say with all due modesty that there is no one, in this country at least, who has had a larger experience in the treatment of gynecological diseases in insane than I have had. During the past ten or twelve years many hundreds of this class of patients have passed under my observation in the three institutions with which I am connected, and in two others with which I am not connected but in which I have had some work. I have performed nearly all the pelvic and abdominal operations on insane women and watched the results. I am therefore, possibly, in as good a position as any one to express an opinion regarding these cases. In regard to puerperal insanity, this condition in its various forms is one of the most hopeful as to cure of all the insanities. The two most frequent causes are shock (which is the same as surgical shock) of labor and septic infection. There are other etiological factors which have a bearing on this condition, but the two mentioned are the most prominent. This form of insanity is often self-limited and will be cured by ordinary asylum treatment. It is our practice at the Eastern Michigan Asylum, however, never to send out such a patient as cured without first remedying existing bodily defects. If there is an endometritis, lacerated cervix or tear of the perineum or any other condition amenable to treatment (surgical), these are relieved before the patient is dismissed. Now, turning to purely gynecological disorders of the insane, the idea that restoration of mental health can be obtained through the removal of healthy structures was abandoned years ago, and I agree with Doctor Jenks that such operations are futile and unwarrantable. I have never removed the normal ovaries but once in insanity, and then, against my own judgment, at the request of the patient's relatives. The case was one of epilepsy, and for certain reasons the operation was desired by the family. The patient subsequently married, but there was, of course, no relief of the condition. Now, as to the question of the cure of insanity the result of operative measures in the instance of diseased or damaged pelvic organs in the female, I desire to say, as I have already many times stated, that I have never yet seen a case of insanity the origin of which, excepting puerperal mental alienation, that could be traced directly to local disorders; and I have also never seen a case of mental cure following operation in which the cure could be truthfully said to be due solely to that operation. It seems to me that the gentlemen that report such remarkable results from operations on insane women, fail to give just credit to the other factors: rest, regular habits, medical remedies, et cetera, which are making for the same end. I have seen quite a number of mental cures following my operations; but I have always believed that, while of exceeding importance, the surgical part was only one of several factors which promoted the end. In the case of ovarian cyst upon which I operated several years ago, the patient regained her mental integrity within twenty-four hours and remained sane during convalescence. She was afterward permitted to go to her home on a visit, but things had changed there, the furniture of the house had been rearranged, et cetera, and she did not like it so immediately threw herself into the well. She was rescued but within a few hours repeated the attempt to end her life, and was then returned to the asylum. The patient lapsed mentally, but she has been so comfortable that for a year or more she has remained at her home. There is no one that has written or talked more than I have in behalf of the amelioration of insane women suffering from local disorders, and I honestly believe that the state has no right to deny them every help to somatic health. In my opinion, while every necessary operation should be done for the promotion of this relief, we should not entertain the idea that mental cure will result. If it does, so much the better. In reply to a question by Doctor Northrup as to whether patients might recover without operation, I would answer that question yes and no. The patient might be restored to mental health, but I am of the opinion that sugical relief promoted the permanency of the cure.

Doctor B. R. Hoyt: The paper is instructive to the general practitioner as a reminder of the importance of looking after the causes of disturbed condition of the nervous system. If we find that a diseased ovary or a lacerated cervix interferes with the normal condition in a manner that prevents the central nervous system from receiving its proper nutrition, we should at once see that the disease is removed before there is irreparable harm done to the brain. I have seen within the past six weeks three cases of interest in this connection. The first case was a woman, the mother of four children. She was suffering with hysterical symptoms bordering on insanity. Urinary examination revealed large quantities of uric acid. The patient was put on eliminative treatment and made a good recovery. The second case was similar but more persistent, yet it made a good recovery. In the third case the woman attempted suicide. Under the same treatment the three cases all recovered.

Doctor Jenks: I was impressed at hearing the paper, as it was really a paper for the general practitioner, and was also a plea that the specialist should first of all be a general practitioner. Insanity is certainly more prevalent among women. The reflex from the different organs and their more highly sensitive nervous organization makes them more susceptible. Childbearing is also another important factor. These cases are usually amenable to treatment, at least such has been my experience. It was thought at one time that all insanity was due to ovarian trouble, and that the offending organs should be removed. Fortunately this idea has changed, and undoubtedly many a woman has been rendered insane by the needless removal of ovaries. Insanity coincident to the menopause in the majority of cases recover. The ovaries have been removed for cases of nymphomania without any results, whereas by freeing the clitoris of adhesions this condition might be removed.

Doctor Northrup: I think the paper a good one for the general practitioner, especially as it refers to puerperal insanity. I concur with **Doctor Jenks** in his condemnation of the wholesale unsexing of women as has been done in the past. I have seen cases of nymphomania cured by circumcision of the clitoris. I have seen cases of insanity benefited very much after operations on the sexual organs.

Doctor Carrier: There is an impression among the laity, fostered by the medical profession, that cases of insanity are cured by operation on diseased sexual organs.

Doctor Emil Amberg: There is a prevailing opinion that the organs in question, directly for themselves, are not so much the cause of diseases of the mind. They are, when affected indirectly, the last cause by a loss of blood corpuscles and salts, by change in circulation, by exhaustion, by pain. Sometimes the feeling of disgrace, et cetera, as the doctor mentioned, might be accounted for. The doctor said that in ten per cent. of the female patients in insane asylums the diseases were traced to the time when the organs of reproduction were affected. In Germany they found about fifteen per cent., three per cent. for the time of pregnancy, six and eight-tenths per cent. for the time of confinement, and four and nine-tenths per cent. for the time of lactation. The difference might be explained by the better nourishment in the United States. The doctor spoke of forty per cent. of cures of some mental diseases after an operation had been performed. Unless there is made an exact diagnosis of the mental diseases such a statistic is of no value. Suppose we have a case of a circular form of insanity in which there are intervals of sanity. Those intervals will come whether the patient is operated on or not. There is, however, some kind of a connection between the organs of reproduction and the mind. **Friedmann** reported a case in which periodical attacks of peculiar excitement appeared in a girl before the first menstruation set in, which disappeared after menstruation started. **Kraepelin** is inclined to consider that those are cases of circular forms of mental disturbances. It is important to mention that malignant tumors of the organs of reproduction comparatively give cause for mental disturbances. **Doctor Weitz** spoke of signs of exhaustion in the brain after exercise of the body. The question has been treated in another way. It has been proved by exact experiments that bodily exercise for a certain time affected the working power of the brain in a similar way as mental work did. Another gentleman showed that the effects of a restless night showed for several days afterward, one night's rest not being sufficient for a balance.

EDITORIAL ARTICLES.

PAVEMENTS AND THE PUBLIC HEALTH.

The sanitary feature of pavements is of recent development. In this day not only is the accommodation of travel sought for in the construction of roadways but their influence on the public health is also carefully considered. Along this line noteworthy improvements in roadmaking have been effected during the last two decades. The provision of thorough underdrainage and the substitution of concrete for board, sand and clay foundations have prevented the saturation and putrescence of the soil. The decomposition of the surface pavement has been retarded to a great extent thereby, and by the use of resinous and preservatively treated wooden blocks, macadam, stone blocks, vitrified brick and asphalt. Diligent care in street-cleaning has also greatly assisted both in the removal of dust, excreta and other unwholesome matter and in the exposure of the surface pavement to the disinfecting powers of the sun and atmosphere. We cannot now deny the prominence of the sanitary feature. We may, however, question its preeminent importance and fear the sacrifice of good intentions to prejudice and the conceit of one idea.

The obvious purpose of pavement is the facilitation of travel. In the accomplishment of this object all classes should be suited, the general health respected and the comfort of horses considered. Whatever circumstances shall militate against these demands should, if possible, be avoided. At least only the lesser evils should be allowed to remain. With these principles in mind in the consideration of pavements the following points deserve attention:

(1) *Pavement should be suited to the traffic for which it is used.* Obviously macadam and soft wooden blocks are not adapted to heavy traffic nor the uneven surfaces and noisy rumbling of stone and brick blocks to light service on residence and office streets.

(2) *Pavement should present a minimum of difficulties to horses.* There should be little resistance to traction. A good foothold should be afforded. Grades should not be so smooth as to allow slipping.

(3) *Pavement should be cleanly and sanitary.* Mud should be avoided, and water should be drained off, not allowed to collect either on the surface or between the pavements or to soak through into the soil. It should be easily cleaned and not dusty. It should not be noisy, nor glaring, nor reflective of heat.

(4) *It is highly desirable that pavement be durable and economical.* Frequent repair interferes with traffic. Costly renewal of expensive material courts delay of needed repair.

The foregoing conditions, according to which a standard pavement is determined, make it appear that the sanitary feature is not of sole importance in street-paving and that even it has several aspects. It is evident also, since no one kind of pavement hitherto used answers to all of these requirements, that the proper adaptation of means to end calls for scrupulous good judgment. It will not do, for instance, to recommend the extended use of asphalt simply because it has some sanitary qualities. It is true that it is comparatively non-decomposable and may be molded to an even surface. It is just as true, however, that it requires frequent repair, is smooth to slipperiness, hard, hot and most dusty and glaringly irritant to the eyes. Brick and stone are less hot and dusty and their uneven surfaces give a fair foothold, but these advantages are more than counterbalanced by their excessively noisy use except perhaps where the heaviest service is required. Wood, upon which the severest criticism has fallen, does not seem to have been given the fairest trial in this country. What more than protestations could be expected from soft wooden blocks of various sizes, with irregularly round surfaces often covered with bark, set upon boards, sand or clay, employed for all kinds of traffic and sparingly renewed? No swifter measures for their decay could be devised. Under European methods, however, it seems to have given admirable service. Macadam or broken stone undoubtedly affords the most nearly perfect pavement of all for light traffic. It is elastic, the most easily traveled, noiseless, cleanly and sanitary, is not subject to decay and, with underdrainage, is a splendid sewage bed for that which falls upon it.

These observations are by no means exhaustive, nevertheless they indicate the lines of thought to be pursued in solving this problem. We are not likely to happen upon a truly ideal form of pavement. The best and only thing to do will be to justly discriminate both as to material and traffic and, mindful of the interests of traveler, resident and beasts of burden, so adapt the means to the end that all prejudicial circumstances shall have been reduced to a minimum.

REPORT OF THE EASTERN MICHIGAN ASYLUM.

MENTION has recently been made in this journal of the humane efforts of our own State to comfortably care for her insane population. Attention is recalled to this fact by the receipt of the last biennial report of the Board of Trustees of the Eastern Michigan Asylum. According to their report there were—

Under treatment at State expense June 30, 1896,		786
Transferred from County to State expense, and readmitted during the biennial period ending June 30, 1898,		164
Non-resident insane patients admitted,		20
Total under treatment,		970
Discharged:		
Recovered,	3	
Improved,	39	
Unimproved,	59	
Died,	65	
Transferred from State to private expense,	1	167
Remaining under treatment June 30, 1898,		803

The report covers the usual ground of such publications and reflects a judicious disposition of the appropriations and dignified and careful management by all engaged. The most important fact of public interest relates to the increase of insanity in Michigan as indicated by the urgent need of further provision for these cases. While the actual increase of insanity is doubtless a fact the inference is not warranted that it is increasing faster than the population. Michigan now ranks nineteen among the several States of the Union in the number of insane per thousand of population and her ratio is much lower than that for the country at large. The board affirm as a fact, verified already by statistics, that in certain counties of the eastern district, where the population has reached an industrial and social equilibrium, where there is no material increase due to rapid immigration, and where the increase of the population is only a normal one, the ratio of the insane to the population has not increased in ten years.

The Eastern Michigan Asylum was opened to patients in August, 1878. The building was planned to accommodate three hundred and thirty patients. At the end of the first biennial period the institution had received about four hundred patients, and an attic was converted into a hall for sixteen more. In a similar manner twenty extra beds were arranged for the following year. In 1882 the erection of two wings increased the accommodations by one hundred and fifty. In 1886 two hospital buildings were furnished for ninety patients. Between 1888 and 1894 four other buildings were added, each providing fifty beds. Accommodations had thus been furnished for eight hundred and six patients. No further provision has since been made and yet there are at present cared for one thousand and sixty-five patients, an excess of one hundred and eighty-nine over the normal capacity of the institution.

This crowded condition explains the failure to receive sixty-six other applicants during the year ending July 1, 1898, and the enforced inaction of the management in response to individual requests. To meet the demands now existing and the needs likely to develop during the next few years the Board has recommended the erection of two additional buildings, each to accommodate one hundred patients. The Physician and Surgeon heartily endorse this recommendation and bespeak the encouragement of the whole profession in Michigan.

ANNOTATIONS.

THE MOTHER'S LIFE SHOULD NEVER BE SACRIFICED.

OUR healthy moral sense of the value of human life is a product of our Christian civilization. To the Church and her teachings respecting the sanctity of infant life we owe the strong restraining influence against criminal abortion. The doctrine of the Catholic Church that baptism is absolutely essential to the soul's salvation has deterrently modified fetal sacrifice in difficult cases. She has, however, provided against the emergency of intrauterine baptism and sanctioned the destruction of the child to save the mother's life. The laws of all our States also recognize the life of the mother as paramount to that of the child and pronounce only against unnecessary sacrifice. It is almost incredible that in this day there should fall from the lips of a member of our profession the demand for the mother's life, and yet the following statements are quoted by C. K. BONESTELL, in the *Pacific Medical Journai*, as a part of the proceedings of the Academy of Medicine: "The most eminent jurists, the most eminent divines, have decided again and again that the rights of the child are above the rights of the mother. If any sacrifice is to be made, it should be made by the mother, who takes the chances of fatality upon herself when she takes up the responsibility of conception, and not by the helpless and unprotected child within her womb. One of the penalties of conception is this possible fatal termination, which the Church maintains she must bear as a penalty of the original fall. The law and the canons of the Church agree on this point, and in no uncertain voice has the question been decided many times." In deference to the emphatic tone of these revolting sentiments, arising as it were from medieval fanaticism, it is just to remark that this horrible misconception proceeds from a confusion of the infant's life and soul. The Church has laid not the life but the soul of the child over against the life of the mother. Longer than this we have not the heart to linger. Not only our enlightened but our very instinctive nature rebels against such unnatural sacrifice.

CONTEMPORARY.

THE MEDICAL PROFESSION AND THE UNITED STATES GOVERNMENT.

[THE AMERICAN GYNECOLOGICAL AND OBSTETRICAL JOURNAL.]

AMONG the official advisers of our Chief Executive are an Attorney-General and a Secretary of Agriculture, while the medical profession and the Public Health, far more important because touching the welfare of our citizens more nearly, both individually and collectively than either of these, are ignored. There is indeed a Surgeon-General in our Army, whose residence is at the Capital and who has the quasi-distinction of being an appendix—we had almost said *appendix vermiformis*—of the Adjutant-General's Department. Without authority (for he is subject to the orders of the Secretary of War as expressed by his Chief of Staff), yet bearing a great responsibility, in time of war he is execrated by the public who lay at his door all the natural casualties of camp and field. Of the extent of his actual control even over the medical officers in the army, when once they have been assigned on the staffs of general officers, the unhappy condition of our troops before Santiago and on our transports, during the war, are sufficient evidence. The present Surgeon-General did his duty to the extent of his power and sent drugs and other equipments enough, as he has testified, but that was a very different thing from getting them to the front. We must not forget that the Surgeon-General himself is only a Staff Officer and that Generals Commanding in camp and field do not hold themselves bound to carry out his wishes (unless enforced by a direct order from the Secretary of War), if the former do not coincide with their own opinions or convenience. Moreover, in the selection of sites for camps we have yet to hear of a single instance where the eligibility of any situation was left to the final decision of the Surgeon-General who of all men, by virtue of his position as chief military surgeon, should pronounce ultimate judgment on such a subject.

In time of peace he is practically a nonentity, merely doing routine department work never heard of by the general public except on the few occasions when he makes reports and offers suggestions in regard to the general health of the community, which nobody heeds since they are without authority.

When we realize that the food we eat, the water we drink, the air we breathe are not a daily source of pestilence; that the whole country is not yearly swept by terrible epidemics; that so universally inculcated are the laws of hygiene that even the poorest, uneducated citizen cannot plead ignorance; when we realize that all this is due to the constant vigilance and devotion of medical science alone, is it not a shameful absurdity and an anachronism that the sole recognition by the people of these United States of the value of our profession consists of one *political* appointment in the Adjutant-General's Department.

Will the profession ever wake up to a sense of self-respect? Will it ever realize that it has corporate needs as well as corporal ones? We believe firmly that it will do so eventually, else we would save our words. And here surely is an object worthy of our enthusiasm, worthy of a little unselfish working for the common good.

As a corporate body of citizens we have a right to representation in the highest councils of the nation, for to what other body of citizens do the individuals, the cities, the States of this country owe so much? upon whom are they so dependent for that which makes life possible or living endurable. Are the wheat fields of the west and of Texas or the Russian thistle, the dredging of harbors and widening of channels or the internal revenue tax or even the United States Postal Service of greater value to the community at large than the absence of universal epidemics of small-pox, typhoid and typhus fever, of yellow fever and Asiatic cholera, of filth and squalor and attendant infant mortality? Yet the farmers have placed a Secretary of Agriculture at the President's elbow and there are a Secretary of the Interior and a Postmaster-General in the Cabinet.

The medical profession should and must be represented by a Surgeon-General of the United States who is a member of the Cabinet, whose appointment shall not depend upon political patronage but shall be made upon the recommendation of the medical profession either from the State Medical Societies separately or through a Convention of delegates from each State Society, such Convention to be called by the President of the United States, and each set of delegates to be proportionate, numerically, to the population of the State represented.

In time of war, the Surgeon-General must have absolute authority not only over the medical department but in all matters affecting directly the health and well-being of the Army, subject only to the orders of the Commander-in-Chief, the President. In time of peace, with a large and efficient department under him, he should be empowered by Congress to safeguard the Public Health. He and his Assistants should constitute a National Board of Health, with which all State Boards should affiliate while preserving their independence of action within their own territory. Yet, in all cases of general menace, where two or more States are involved or the safety of the country at large is threatened, the Surgeon-General should have the right to enforce efficiency and uniformity of action by the State Boards.

This is what the country needs and what the profession needs. But it will never come to pass unless we make it come to pass. The subject must be constantly agitated by physicians individually and by the *independent medical press*, through whose united efforts alone can the profession be regenerated.

MEDICAL NEWS.

PROGRAM OF THE STATE MEETING AT KALAMAZOO.

GENERAL SESSION.

FIRST DAY, THURSDAY, MAY 4.

8:30 A. M., standard time.

I. Call to Order by the President, . . . Ernest L. Shurly
II. Opening Prayer, ... Reverend John Grey, D. D.
III. Address of Welcome, . . . Mayor William G. Howard
IV. Report of Executive Committee, C. Van Zwaluwenburg, Chairman
V. Annual Report of Secretary, Treasurer, and Publication Committee.
VI. First Report of Committee on Admissions, Eugene Smith, Chairman
VII. Annual Report of Committee on Necrology, A. H. Bigg, Chairman
VIII. Report of Special Committees.
IX. Miscellaneous Business, including nominations for President and Secretary.
X. Annual Addresses:
  (*a*) The Value of Complete Diagnosis, Fritz Maass, Detroit, Orator of Section on Surgery and Ophthalmology.
  (*b*) Pelvic Disease in Women and Insanity, Walter P. Manton, Detroit, Orator of Section on Obstetrics and Gynecology.

7:30 P. M., standard time.

I. Annual Addresses:
  (*a*) Ethics and Commercialism, Ernest L. Shurly, Detroit, President Michigan State Medical Society.
  (*b*) The Problem of Infant Nutrition, Charles G. Jennings, Detroit, Orator of Section on General Medicine.
II. Adjournment to an informal luncheon given by the Kalamazoo Academy of Medicine at the Auditorium.

SECOND DAY, FRIDAY, MAY 5.

11 A. M., standard time.

I. Final Report of Executive Committee.
II. Report of Committee on Admissions.
III. Report of Committee on Finance.
IV. Report of Committee on Nominations.
  At 12 o'clock the result of the ballot for President, First Vicepresident and Secretary will be announced.
V. Miscellaneous and Unfinished Business.
VI. Adjournment.

SECTION ON GENERAL MEDICINE.

FIRST DAY, THURSDAY, MAY 4.

2 P. M., standard time.

I. The Epidemic at Siboney, . . C. T. Newkirk, Bay City
II. A Marked Case of Dyspepsia and Malnutrition Caused by an Undeveloped Uterus, ... James N. Martin, Ann Arbor
III. Toxicology of Powdered Glass, ... J. E. Clark, Detroit
IV. Leukemia in Michigan, with Special Reference to Diagnosis, George Dock, Ann Arbor
V. Contagious Cutaneous Affections, . . A. E. Carrier, Detroit

VI. Primary Syphilis, . . Ralph H. Spencer, Grand Rapid
VII. Vaccine, ... C. T. McClintock, Detroit
VIII. Temperature and Disease, . H. J. Chadwick, Grand Rapids

Second Day, Friday, May 5.

8:30 A. M., standard time.

I. Antistreptococcic Serum, . . E. M. Houghton, Detroit
II. Prognosis of Pneumonia in its Relation to the Etiology, Herbert M. King, Grand Rapids
III. The Proper Relation of Climatic to other Methods in the Treatment of Pulmonary Consumption, . . H. M. Dunlap, Battle Creek
IV. Stricture of Esophagus, and Electrolysis with a new Esophageal Electrode, ... Charles D. Aaron, Detroit
V. The Relation of the Medical Profession to Proprietary Medicine, C. C. Yarbrough, Detroit
VI. Adjournment at 11 o'clock to General Session.

Second Day, Friday, May 5.

2 P. M., standard time.

MEETING TO BE HELD AT THE MICHIGAN ASYLUM FOR THE INSANE.

I. Election of Officers of Section.
II. Indications and Contraindications for Surgical Interference in Brain Disease, ... Hugh T. Patrick, Chicago
III. The Early Recognition and Treatment of Insanity at Home, William M. Edwards, Kalamazoo
IV. Moral Imbecility, ... David Inglis, Detroit
V. A Brief Account of the Minute Anatomy of the Sympathetic Nervous System and its Relation to the Cerebro-Spinal Nervous System, G. Carl Huber, Ann Arbor
VI. A Series of Gastro-Analyses in Acute Melancholia, Samuel Bell, Newberry

SECTION ON SURGERY AND OPHTHALMOLOGY.

First Day, Thursday, May 4.

2 P. M., standard time.

I. Septic Diseases of the Brain and its Membranes:
  (*a*) Localization, . . William Fuller, Grand Rapids
  (*b*) Diagnosis from the Standpoint of the Oculist and Aurist, Eugene Smith, Detroit
  (*c*) Operative Procedures, . . Hugh McColl, Lapeer
II. The Employment of Gloves as a Recent Factor in Operative Surgery, Schuyler C. Graves, Grand Rapids
III. Traumatism of the Male Urethra, with Report of Two Cases, Charles W. Hitchcock, Detroit
IV. Urethral Diseases and Marriage, Frederick W. Robbins, Detroit
V. Tubercular Osteomyelitis, . . Angus McLean, Detroit
VI. Report of Interesting Surgical Cases, William Fuller, Grand Rapids

Second Day, Friday, May 5.

6:30 A. M., standard time.

I. Surgery of the Stomach, with a Report of Two Cases, Henry O. Walker, Detroit
II. Why Some Bad Cases of Appendicitis Recover Without Operation, J. Henry Carstens, Detroit

III. A Preliminary Report on Nonseptic Postoperative Leucocytosis, Herbert M. King, Grand Rapids
IV. Sutural Closing of Visceral Wounds, Frank B. Walker, Detroit
V. Surgical Appendicitis, . . . Hal C Wyman, Detroit
VI. Cyst of the Pancreas Following Trauma, J. Van der Laan, Muskegon
VII. Adjournment at 11 o'clock to General Session.

SECOND DAY, FRIDAY, MAY 5.

2 P. M., standard time.

MEETING TO BE HELD AT THE MICHIGAN ASYLUM FOR THE INSANE.

I. Election of Officers of Section.
II. Diseases of the Cavities of the Nose an Important Factor in Producing Affections of the Eye, . . Albert E. Bulson, Jackson
III. Correction of Divergent Strabismus by a New Method and New Instrument, ... D. Milton Greene, Grand Rapids
IV. Treatment of Diseases of the Ear, . W. F. Strangways, Flint
V. What Should the Family Physician Know About the Eye, J. H. Sanderson, Detroit
VI. The Complications of Mastoid Abscess, Charles H. Baker, Bay City
VII. Demonstration of Some New Ear Instruments, Emil Amberg, Detroit

SECTION ON OBSTETRICS AND GYNECOLOGY.

FIRST DAY, THURSDAY, MAY 4.

2 P. M., standard time.

I. Puerperal Sepsis:
  (*a*) Symptomatology, . Joseph B. Whinery, Grand Rapids
  (*b*) Medicinal Treatment, with Special Reference to Serum Therapy, Howard W. Longyear, Detroit
  (*c*) Surgical Treatment, . . A. W. Alvord, Battle Creek
II. Excerpts from Records of Gynecological Cases, James N. Martin, Ann Arbor

RECENT PUBLICATIONS.

REVIEWS.

OCULAR THERAPEUTICS.*

WHILE this little book cannot in any way take the place of the ordinary text-books on Ophthalmology with the student or general practitioner, it will doubtless prove of use to specialists and physicians conversant with the subject. It is up to date in antisepsis and new remedies and is interestingly written. The mechanical work and paper are of the best. S.

*Ohlemann. Edited by C. A. Oliver. P. Blakiston's Son & Company, Philadelphia.

RENAL SURGERY.*

THIS volume consists of four lectures and a tabulated abstract of two hundred and sixty-seven of the author's cases. The first three lectures were given by the author as the Hunterian Professor of Surgery and Pathology for 1898, and treat of the history of renal surgery and of renal calculus, its diagnosis, the cause of fistula and anuria due to renal calculus and the technique of exploratory operations upon the kidney and ureter for calculus. The fourth lecture discusses injuries of the ureter. Nearly half of the entire work is taken up with a tabulated study of cases of nephrolithotomy, nephrotomy and nephrectomy for stone, exploratory operations and operations for movable kidney, hydronephrosis and pyonephrosis, operations for tuberculous disease, for fistula, tumors and injuries and collected cases of calculus anuria. The work is timely, interesting and an exceedingly valuable addition to our meager literature upon the subjects it treats.

*By Henry Morris, M. A., M. B., (London), F. R. C. S., Senior Surgeon to the Middlesex Hospital; Examiner in Surgery in the University of London; Member of the Council and Chairman of the Court of Examiners of the Royal College of Surgeons of England; Honorary Member of the Medical Society of the County of New York; Formerly Lecturer on Surgery at the Middlesex Hospital Medical School. Cloth, $2.00. P. Blakiston's Son & Company, Philadelphia, 1898.

MANUAL OF SKIN DISEASES.*

We do not anticipate being charged with imposing a severe tax upon credulity when we affirm that physicians generally have only a vague and confused understanding of skin diseases. We believe this to be true and regard the scholastic and almost pedantic method of treatment of this subject usually adopted by authors to be responsible for it. The volume before us is welcome as it promises some relief. Diagnosis and treatment are especially considered. The former are tersely and clearly defined; the latter is uniformly explicit and comprehensive and reenforced by practical points and useful combinations of remedies.

*By W. A. Hardaway, M. D., Professor of Diseases of the Skin in the Missouri Medical College, Saint Louis. Second edition, entirely rewritten and much enlarged. In one handsome 12mo. volume of 560 pages, with forty engravings and two colored plates. Cloth, $2.25, net. Lea Brothers & Company., Publishers, Philadelphia and New York.

THE PRACTICE OF OBSTETRICS.*

The participation of so many eminently successful practitioners and teachers in a work of this pretentious character is itself a guarantee of a valuable publication and the result must be gratifying to all concerned. We have larger and more exhaustive treatises on the general subject but none more complete and explicit than this one on the modern management of puerperal cases. It is a pleasure to turn from theoretical discussions of mooted points to direct statements of facts as they appeal to thoroughly practical men of today. It is richly illustrated and a work of artistic merit.

*Edited by Charles Jewett, M. D., Professor of Obstetrics in Long Island College Hospital, Brooklyn, New York. In one handsome octavo volume of 763 pages, with four hundred and forty-one engravings in colors and black, and twenty-two full-page colored plates. Cloth, net, $5.00; leather, net, $6.00. Lea Brothers & Company, Publishers, Philadelphia and New York.

The Physician and Surgeon

A PROFESSIONAL MEDICAL JOURNAL.

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

ETHICS AND COMMERCIALISM.*

By ERNEST L. SHURLY, M. D., Detroit, Michigan.
PROFESSOR OF LARYNGOLOGY AND CLINICAL MEDICINE IN THE DETROIT COLLEGE OF MEDICINE.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

The subject of the following remarks—"Ethics and Commercialism"—become very interesting when we reflect upon the gradually growing tendency toward adopting commercial instead of ethical standards for governing human action. In alluding to ethics, however, I refer to the broad domain of moral philosophy applicable to all people and not to the limited area of conduct known as medical ethics, formulated for a particular class of persons.

As you are aware, codes or systems of ethics did not originate with modern civilization, nor even with the aborigines of earlier periods, for, according to the evidence based upon archeologic data, prehistoric man lived under a system of communism which embraced rules of conduct similar to our systems of ethics. Indeed the lower animals which live gregariously, display in their community organizations a regulation of individual conduct which seems analogous to human ethics, as exemplified by the actions of herds of wild mammals, flocks of birds, and communities of insects, such as ants and bees. Nor is this to be wondered at when we consider the necessity for mutual protection against the exercise of individual avarice, prowess and cunning, which must arise among all animate free agents that dwell together. Organization and therefore ethics is a corollary of association and springs primarily from selfish motives. It involves the relinquishment of more or less individual impulse or liberty and the acceptance of restraint. Rules of conduct—according to Herbert Spencer and other philosophers—arise from selfish motives primarily, a hope of reward either now or hereafter being one of the strongest incentives for the regulation of conduct. Therefore the abstract idea of right and wrong is arbitrary and based upon the circumstances and environment of the collection of individuals affected. Hence what is wrong in one locality or with one nation, may be deemed right, or at least not wrong in another.

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*President's Address before the Michigan State Medical Society at the Kalamazoo meeting.

There was a time when civilized men, according to race and location, were the subjects of one religion or one political system, the masses giving an absolutely slavish acquiescence to either one or both, and when to oppose in thought or deed the dictates of the presiding or sovereign potentate constituted a great crime. Of late years, however, owing to the effects of more liberal education and an insight into nature (effects which I am happy to state have been largely due to the glorious system of free public education inaugurated by the United States), the mind of man is becoming emancipated from slavery to dogmatic authority, and consequently independent thought capable of reviewing authority may be freely indulged in. He thinks more and acts more for himself. Just how far we will go in this direction, and what results may ultimately follow, remain to be seen in the future by the evolutionary processes which independent nations are undergoing. Perhaps the pendulum may swing too far the other way, and disorganization instead of improved ethic organization may ensue. Ethic evolution, or in other words, social readjustments, usually go on slowly, for, as IBSEN says, it is the minority only in every community that does the thinking. At the present time we see the most intelligent nation in the world next to our own submitting to the government of a monarchy which is nearly absolute. We see also a nation of naturally talented people, held in mental and social slavery by a church on one side and a czar on the other—an absolute monarchy whose principal efforts seem to be directed toward the suppression of Nihilism, the persecution of the Jews, and the conquest of poor China.

Notwithstanding the foibles and senility of monarchical systems of government as viewed from an American standpoint, the obedience to authority exacted by them constitutes an ethical virtue which we are bound to respect, and one which we, too, recognize, although perhaps in the form of a thirtieth dilution. We, who are law abiding, should hold ourselves obedient to the law and to the officers who administer it, and generally so do, not because we dread penalties, or feel the disgrace of our nonethical conduct in failing to obey, but because it is more convenient to do so, for be it said to our shame, a man may defy the law in this country and not only retain the respect of his fellows but sometimes meet with applause for it. Principle is too often replaced by expediency. A judge even may be criticized for rendering a decision on a principle of law because it may affect adversely a large class of people. In other words, he is expected to decide a given case not on principle but because a large class of people would be affected by it commercially. Now, this sort of class government we criticise in monarchical systems, and yet we are tacitly demanding the same thing in a roundabout way ourselves, because avarice and self-interest in forms of commercialism are really dominating us. This comes from the deplorable fact that business cunning (which is purely an aboriginal trait) is being recognized as a predominant force in our body politic to the detriment of an ethical system based upon principles of justice and integrity. Through apathy to ethic principles our political state would be deplorable were it not for the competition and antagonism of the political machines. One or several persons build up a political machine, so-called, in order to further their ambitions. This machine flourishes for awhile, and then its component or individual factors work for personal gain and favor, chiefly to keep themselves and their friends in office. This constitutes the glory of their achievements. The candidate gives no thought concerning his fitness for office, neither do his friends who demand the office for him. The only thing considered is that he has done this, that, or the other political job, and that the office pays so much per annum. The consequence of all this is, that the ethical principles of our governmental system are debased and annihilated by commercial politics. By submission to bossism we are generating a craft of professional politicians, whose primary and ultimate aim is to pursue the business of politics only. The proper administration of office, while being considered perhaps laudable by these men, is nevertheless only a secondary matter. Take for instance the municipal boards or commissions of our cities. Instead of quietly and effectively conducting the business for which they are organized the members spend two-thirds of the time in wrangling over a candidate for employment, on the basis of whether he may have this or that political influence, not whether he is fitted for the position in question. Hence a reliable and competent employé is unable to retain his position unless he becomes a vote-getting henchman of the political machine in power. The manning of public boards with professional politicians or adherents of political machines is a serious menace to municipal government, although one or two of the individuals may have honest intentions. It may be said without fear of successful contradiction that the worst enemies of our commonwealth are the professional office-seekers. In Detroit, there is one board which has been fairly nonpartisan for years, and it is unnecessary to state that its record is magnificent in every respect. I allude to the Poor Commission. I do not wish, however, to be understood as making invidious comparisons, because other municipal boards of Detroit have been exemplary in the performance of duty. I merely mention the one because I believe it has been less troubled with political ulceration than the others. Now, if the proper ethical spirit were observed (and I mean by this term the relinquishment of political and commercial self-aggrandizement and the substitution therefor of a high sense of justice and duty) a purely representative government like ours would not degenerate into a minature absolute monarchy nor an unjust oligarchy.

Again, outside of public life the tendency to think that every transaction is honest because it may be technically legal is calculated to neutralize desirable ethical rules of action. While a certain code of ethics, I am happy to say, is still closely followed by a large class of business men, yet there are very many men with apparently honest intentions whose sense of obtundity to certain methods of doing business, is very striking. A few years ago I chanced to meet a man who had made a large fortune out of the sales of a nostrum, the labels and folders of which were teeming with notorious falsehoods. The proprietor in question was a very worthy man as the world goes. Becoming well acquainted with him and being engaged one day in conversation on the subject, he appeared very much amazed at my ethical views upon such advertisements. When I tried to convince him that the process of deceiving his fellow-men by cunningly framed certificates, and promises to cure all disease that flesh is heir to, was decidedly the same sort of device that the gold brick man and the confidence man resorted to, he seemed shocked at the revelation, although his defensive arguments were apparently silenced by the feelings of regret awakened by an ethical exposé of one of the labels and wrappers attached to a bottle of his business commodity; nevertheless he will probably retain his money and console his conscience by the same reflection that all participants in shady transactions resort to, namely, the thought that people did not have to believe his advertisements, and if he had not done as he did somebody else would. In other words, he would not blame himself because the fools bought his nostrum when they were not obliged to do so.

The seemingly innocent as well as willful ignorance of ethical conduct in the commercial and social walks of life is particularly annoying to medical men, who have to deal practically with the humanities more than any class of persons, excepting the clergy. We often observe that intelligent people, generally seekers for novelty, will readily take medical advice from some unknown illiterate man or woman, or follow the dictates of some extravagantly worded advertisement (while knowing perhaps that most all advertisements are lies), and, moreover, that many persons in prominent positions will allow their vanity to be so tickled as to suffer the publication of their fancied ailments with a photographic embelishment. Perhaps in the near future, we may see some one running for Congress as a candidate of so-and-so's bitters, or nervine. This nostrum vending has been a growing evil not only in suggesting to many well persons the idea that they are ill, or deluding those who are slightly ailing into the belief that they are suffering from some dreadful malady, but the commercial prosperity which often attends such ventures has lead many hitherto honest reputable manufacturing and commercial houses to adopt similar methods of doing business under false pretences. The extensive patronage bestowed upon nostrums and charlatans has in a few instances induced reputable practitioners to stray from the ethical path into the devious dishonest byways of quackery and nostrum-selling. Like Browning's Paracelsus, after years of honest toil in seeking for knowledge and skill, they are led by the observation of the commercial success accompanying charlatanism, into adopting it for purposes of pecuniary gain.

Notwithstanding the example of our faithful adherence to a broad system of ethics, the principal aim of which is the protection of the public from the evils of advertisements and from charlatanism, from epidemic diseases, and from dangerous unsanitary surroundings; and in spite of the fact that the medical profession has been instrumental in the prevention and stamping out of numerous virulent scourges, and has otherwise as a professional body been faithful in ministering to the poor, the unfortunate, and to the best interests of the people generally, there are relatively few who fully appreciate or who understand the high moral import of our code of ethics and the cogent reasons for our aversion to advertising. Just think of it! What a death blow to the advancement of science! What a terrible state of physical, social, and moral degeneracy would supervene, if the whole reputable profession were to throw aside ethics and vie with each other in publishing fulsome braggadocio statements, disgusting photographic certificates and lying advertisements to deceive the public generally! This is what some thoughtless persons would have us do. The laity generally have no conception of the security they receive from the ethical conduct of the educated medical fraternity. The natural reserve which professional etiquette engenders is very generally misconstrued by the laity, while the necessary irregularity of the physician's daily routine in attending the sick often renders it impossible for him to take an active part in public affairs. For these reasons the moral and social influence of the medical profession is, to a great extent, unappreciated, and in consequence its members are apt to be ignored in public matters. The politicians seem desirous of filling all offices with their kind, even trying to fill medical positions with nonmedical persons. This would create no trouble of course if the appointees were competent, but they cannot be, for lack of training, if for no other reason. However, in a government (if I may be allowed to paraphrase an aphorism of the beloved LINCOLN) of the people by the politicians for the politicians, such public action is to be expected. The filling of medical positions by laymen is decidedly wrong in principle, and does not subserve the interests of the people at large. Boards of health should be composed of reputable physicians entirely, also the boards of all institutions designed for the care of the sick or infirm. In short, the custody of all affairs belonging in any way to the *public health* ought naturally to be in the hands of competent medical men. The people of this state for years have been at the mercy of a large number of illiterate and in some cases unprincipled medical practitioners. Many legislatures have come and gone, and in the shadows of their triumphant march, in pigeon-holes of oblivion, may be found a hoard of medical bills not passed. What the fate of the biennial scroll of this year will be, none save a human ichneumon can tell. However, if its provisions fail of the proper recognition, it will be no fault of your industrious committee headed by its irrepressible and logical chairman, aided by the indefatigable attention of DOCTOR HOWELL, the medical member of the House of Representatives.

The question now arises what, if anything, ought we to do in fulfillment of our ethic duty to the communities in which we live. Shall we stand like dumb beasts and assent to the supremacy of commercialism over ethics, and by the silence acknowledge "That robbing a hen roost of a hen is mean, but stealing thousands makes us gentlemen;" or assent to the barbarous doctrine promulgated by political cormorants that "To the victor belongs the spoils;" or shall we as a teaching element of the body politic assist in the dissemination of the doctrine of ethics, "The governing intelligence," as formulated in the words of MARCUS AURELIUS? It seems to me our duty to humanity is clear enough. We should take new life in combatting fraud and humbug. To accomplish such laudable ends we must strengthen the Michigan State Medical Society and extend its influence. We must not falter in teaching our neighbors that the wholesome rules of moral conduct contained in the broad code of ethics which every Christian should live up to, apply to the discouragement of all quackish and sinster methods of practice under whatever name it flourishes. We must aggressively and fearlessly combat in every quarter shady and misanthropic business methods, and finally we should insist that the administration of affairs for the preservation of the public health should be practically left with the medical profession. If the gospel of true ethics be preached assiduously, the epoch will arise when honor, justice and philanthropy will prevail, and commercialism will bend the knee at the throne of ethics.

MEMOIRS.

CONSERVATION OF OUR NINETEENTH CENTURY CIVILIZATION.*

By A. B. LYONS, M. D., DETROIT, MICHIGAN.

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WHAT is to be the future of our modern civilization? The world has seen in the past kingdom succeed kingdom, civilization succeed civilization. Sometimes the growth of a nation, or of a phase of human improvement has been slow and steady, and the subsequent decadence has been correspondingly gradual. Again, there has been astonishing rapidity of evolution succeeded after a very short interval by reversion to conditions more normal, as it would appear, to humanity. In any case progress has not gone on uninterruptedly for any great length of time. Are we to conclude that this is in accordance with a natural law which no human intelligence or foresight can evade? Perhaps so. It is a characteristic of all manifestations of vital energy that they are subject to rhythmic variations, and indeed this is true of movements controlled alone by mechanical forces.

It is not my purpose at this time to go into any such abstract question of philosophy, but rather to invite discussion from a practical standpoint of a few of the dangers that seem to threaten our modern civilization, which possibly it may not be too late to avert or escape. I need not offer apology for introducing such a subject in an assemblage of physicians. Whatever concerns the health of the people, physical, social or moral, comes distinctly within the scope of medical science, and it is from physicians that we should expect in all these matters the soundest counsel.

During one of our discussions recently, the statement was made that the men who held important places in our community almost without exception are country born and largely country bred. It is true that in the cities we find sons succeeding their fathers in business or in professional pursuits, and there are not a few examples close at hand of men who seem to have inherited all the force and ability of their fathers. This is not the rule. Far oftener we find in the second generation scarcely the ability to maintain even the momentum due to the forceful ancestral impetus. The young men have brains. They have training such as their fathers never had. Intellectually they rank high, but in all that constitutes real manhood, they strike us as degenerate scions of a noble stock. When men are wanted for leaders, civil, military, or on the intellectual or spiritual plane, it is not these who step forward. If they are *put* forward for such leadership, failure and disgrace is too often the result.

*Read before the DETROIT ACADEMY OF MEDICINE.

As long as the cities contained only a small proportion of our population, this was perhaps a matter of little importance. From our yeomanry we might look for ample supply of material for leaders. But the concentrating of our population in cities is going on with ever increasing rapidity, and before long, if there are to be leaders at all, they must come from the cities. The question then is, what has been the advantage of the country boy over his city cousin? By no means a simple question. There are so many elements in the environment of each that it is not easy to single out the factors of greatest differential importance.

It is certain that the country boy gets a far greater part of his education outside of the schools than the city boy. From an early age he has a share in the work in which his father is daily occupied, and frequently, while still a mere lad, quite a responsible share in that work. In the city this is generally out of the question. Whether the father is a laborer, a car driver, a salesman, an accountant, a merchant, a professional man, it is seldom that he can have his son by his side while he is at his daily work—much less expect him to grow up as a companion or assistant in that work. The education of the boy must be entrusted to teachers—not generally to men but to schoolmaams. I do not intimate that women do not do as good work in the class room as men, but it is not in the class room, at least as we know it today, that the boy gets the best part of his education.

The first and most pressing need of the city boy who is to grow up to be a leader among men, is better educational opportunities, not more schooling. Of that he has as much as is good for him, unless there can be schooling of a wholly different character. America is justly proud of her educational system. It is generous in its provisions, such as they are. Our educators are progressive in their ideas and methods, and yet can we say that our school system does any more for a boy than to lay the foundation for an education? Fifty years ago a boy was sent to school to learn to read, write and reckon. Today the idea of the school is something far beyond this. It aims to develop the child mentally, morally and physically, seeking to give efficiency to the latent powers and to awaken lofty ambitions. I mean such are the ends the leaders in pedagogical thought and practice are trying to realize. Of course the rank and file of teachers are plodding along in the old ruts, and their pupils have not yet come under the inspiring influence of the new methods.

But do even the most advanced of the advocates of the new education yet apprehend the magnitude of the task they have to undertake if they are to provide a rational system for the training, apart from parental assistance and companionship, of the men and women of the rising generation?

When I was a boy I spent several years in a boarding school where I was preparing to enter college. The didactic instruction I received was of the ordinary sort—a vast amount of time squandered over the dead languages and a great deal spent in wrestling with mathematical puzzles—science and history, modern literature and the principles of government wholly lost sight of. But every morning at daybreak we boys turned out, dressed in the garb of the working man, with our teachers similarly dressed and provided like ourselves with hoe or spade or pickaxe, and we put in an hour and a half—barring showers—of solid, honest, purposeful work in improving the grounds, and in raising vegetables for the table or for market. That hour before breakfast, in the cool of the morning, I verily believe had in it more of real education than all the day beside. Not a few of the boys who served this apprenticeship in conducting practical operations in irrigation, in planting and tending and barvesting our modest crops, have since become directors of important and eminently successful agricultural experiments. Others may be found occupying responsible positions in professional life or in the walks of ordinary business. Wherever they are you will find them men of influence, independent, self-reliant men, not necessarily wealthy, but in the truest sense successful in life.

Now, we were not set to work thus for the sake of the education it would give us.

The object was the utilitarian one of reducing the expenses of living, and at the same time securing needed systematic physical exercise. But I remember today more vividly and with deeper pleasure those hours of close contact with mother earth, of strenuous contest with the *manienie* grass that invaded our banana field, or the rank mallow weeds that persisted in springing up on our campus than I do even our boyish games of wicket and drive, hardly contested as these often were, and full as they were of exhilaration while they lasted. Indeed there were not a few of us boys who devoted daily an extra hour or two to the cultivation for individual benefit of our own garden plat, where we planted flowers for beauty and sugar cane, bananas and peanuts for more utilitarian purposes.

Now, I wish my boy could have in later life such memories to look back to, and I wish he could have some such opportunity to experience both the weariness and the rewards of manual labor. It happens that as I am writing this I have before me an announcement sent out by Union College in 1827, in which I find this pertinent paragraph: "Those students who desire it are embodied and drilled, during play hours, by an experienced military officer. Athletic exercises are encouraged, and ample grounds are furnished free of expense for those who prefer to devote their hours of recreation to agricultural pursuits." I cannot refrain from quoting further: "The dress of the students is a grey coat with a standing collar; grey pantaloons and overcoat; all of domestic manufacture." A very different world truly it is from that our grandfathers knew.

Well, you ask, would you send the city children off to boarding schools in the country, at least during the summer months? Certainly I wish some such thing were practicable, but I do not mean to intimate that this is the only possible solution of the problem. Some of you are ready to offer the suggestion of manual training. Now, there is no more ardent advocate of manual training as an essential part of education than I am, but "that is another story." What we want especially is to escape this everlasting training and get some contact with untamed and untrained Nature! Why, the boy today carries the idea of fixed artificial method, even into his sports. In his baseball there is none of the freedom and spontaneity of the old fashioned game—*aipuni*—as we boys played it. The freest of his sports, football, is under rigid rules, and he cannot even leap or sprint without taking anxious thought about feet and inches and seconds. What he needs more than anything else is contact with a nature which is under law indeed, but which does not formulate and codify its laws so that he can measure their exact educational value.

Our school training fits us to work out definite problems with mathematical exactness. It does not cultivate the judgment which must rapidly estimate the value of elements not directly measurable, and it is this faculty that a man needs more than anything else in dealing with the everyday problems of life. The graduate of a modern cooking school will adjust the heat of her oven to a nicety by a thermometer, and so reaches by scientific methods the same end that was attained without any such aid by her mother or grandmother who never had a failure in her baking. By all means let us learn the scientific methods, but let us not be so tied to these that we are helpless without them, for depend upon it, the most important problems we shall have to solve in life, whether public or private, will involve too many factors of uncertainty to permit reliance alone upon our mathematically exact science.

What, then, is it that our boys need to supplement their schooling? It is especially some share in real work in the association with men. It is a crime to put young children into the treadmill of labor, and in civilized countries the law so regards it. It is almost equally a crime to deprive children of the opportunity to aid efficiently—even to the point of a little muscular fatigue in useful work—work whose utility is comprehensible to the child. The exercises of the gymnasium are good, but they are only exercises; they can never take the place of genuine work.

Now, I can think of no kind of work so suitable for boys as the use of hoe and rake, shovel and wheelbarrow and lawn mower. Would it not be possible, even in a city like Detroit, to furnish the boys with a sufficient amount of exactly this kind of work? Why not have public, and for that matter private, lawns kept in order by pupils from the public schools? Why not have the city parks made attractive by flower beds laid out, planted and tended by them, under competent supervision of course. Why not beautify some of our broad avenues with borders of ornamental shrubbery and beds of flowers, cared for by the boys? Why not have unoccupied areas within or near the city limits turned into vegetable gardens—in accordance with ex-mayor PINGREE's famous scheme—for the benefit of the children? Why not have a piece of land set apart for a seed farm, for example, allowing the children to have the privilege of doing the greater part of the work? In this case there would be opportunity for girls to have a share as well as boys—a distinct advantage.

There are many ways in which the desired end could be secured, if only the inevitable prejudices of parents, and of labor unions, et cetera, could be overcome, but that is a big "if." Of course any such scheme would call for expenditure of money, and would make it necessary to find suitable persons to be directors of the work, the most difficult part, perhaps, of the project, and it would require a great deal of persistent effort on the part of advocates of the measure to get any trial of it in a large city. Still, if this is the way to make efficient men and good citizens of our city-born children, it certainly is worth all it would cost.

But it is not necessary to wait for the perfecting of a system such as I have suggested. If individual heads of families can be made to realize the possibilities of good for their own children in giving them an introduction to Nature's laws and methods through practice in horticulture, it would not require much effort to interest the boys in a flower bed, at least at home, even if it must be in the back yard, and there are few who could not find time to give the personal supervision to the work necessary to keep up an interest in it. It should not be a difficult matter in any neighborhood, among the well-to-do at least, to get up a little healthy rivalry among the boys. At all events, there is work about any home for hoe and rake and lawn mower which ought not to be lost to the boys in the family.

I need not dwell further upon this particular theme. You will say that I have not reached the root of the matter, and that is true. The past history of civilized nations has shown how the lives of ease and luxury that were made possible by toilsome effort on the part of predecessors, have degenerated into indolence and unfruitfulness. Is this inevitable? Through hardships and strenuous effort the fathers lift themselves into lives where effort and hardship are a tradition of the past. The children are heirs of the comfort and the ease, but are not allowed to have any heritage in the sterner discipline through which character and efficiency in the parent were developed. The parents graduated from the school of experience. They send their children to schools where they get very little experience such as belongs to real life. They are taught to read and write and cipher—all very necessary elementary requirements. According to modern ideas, they learn (in the better schools) something of law, liberty and literature, and this is well. In some cities they are given further insight into the practical working out of ideas, mechanical, artistic or esthetic, through training in drawing and in manual exercises. This is still more to the purpose. We may hope that these educational reforms may reach Detroit before the end of the twentieth century. But even with all these there remains much to desire.

The school, beginning with the kindergarten, should aim to bring children into the kind of relationships that belong to adult life, at least to an ideal adult life. There must be training to habits of helpfulness. Service and sacrifice must become the keynotes of the developing life. It is blessed to give; to receive beyond desert is humiliating. Law is everywhere, but it is not an authority above us, against which we protest. Law is our own collective will. Disobedience thereto is weakness, not in any sense a sign of independence or manliness. Effort always secures reward, and no reward comes to those who are unwilling to make the effort. All this must somehow be taught by experience, and so must the real principles of self-government be exemplified, a very different thing from didactic teaching of "the principles of civil government" as an item in a school curriculum.

In school and out, young men must be made to feel that there is no place in the world for an idler. It is not necessary, perhaps, that every young man be compelled to earn his own living between the ages, say of eighteen and twenty-five, although such a rule would give the majority of rich men's sons a better education than any their fathers could otherwise provide for them. But it should be impossible for a man rightly educated to endure a life of emptiness or frivolity; how can he, if he has tasted the satisfactions of the higher life of service and sacrifice?

Is everything to be left then to the schools? If so it will be long before reforms come. There must be in the first place individual conviction on the part of parents that the law of the survival of the fittest applies to *their* boys, and that they can do those boys no greater wrong than by endeavoring to shelter them from the rigor of its operation. Then the parent must recognize and meet the responsibility that rests on him to see that his own place in the world is worthily filled by those who are his natural heirs. It is mistaken affection that would hand down to children wealth and social standing without making them come only as natural rewards for merit.

There is temptation here to enter into a general criticism of our educational system in its aims, methods and results; to show how little it meets the needs of the masses of our population; how it cultivates disproportionately the intellect, failing to coordinate intellectual with emotional and volitional faculties; how it puts on the growing youth, in its more advanced curricula, burdens far beyond their years, and exhausts vitality where it should supply only invigorating exercise; how its trend is away from productive toil except, possibly, in literary lines, and toward the fostering of social parasites, making it more natural and praiseworthy for a man to get a living by his wits than to earn one by his purposeful toil. All this I must pass by, for I have already taken much of your time.

One more subject, however, I must place before you, first because of its great intrinsic importance, and second because it is one that comes especially within the province of the physician. This is the rapidly diminishing fecundity of the civilized peoples of the earth. Sanitary science has made great advances in the last generation. We see a very gratifying reduction in the death rates of our cities, particularly in infant mortality. It is no longer expected among people, at least of the middle and upper classes, that one-half of the children born will die in infancy. But, on the other hand, there has been, in the last half century, a steady falling off in the birth rate. Except among the lower classes, we no longer look for families with even half a dozen "olive branches." It is not because the power of procreation has been lost. It is not that the procreative instinct, in one sex at least, is diminished or is held in abeyance, unless it be through the abnormally prolonged period of bachelorhood. Marriages, it is true, are deferred much beyond the time of sexual maturity. If this means, in any given case, simply indifference to the complementary sex, there is no harm in this, but too often the abstinence is under strong protest, and every one knows that, for a young man, at least, suppression of the sexual instinct is much like chaining down the safety valve of a steam boiler with fires underneath and no engine to use the accumulating energy. Many young men pass through the ordeal without disaster and bring to the bridal couch at last an unsullied manhood to match the purity they expect to encounter there. I fear that this is not the rule. The man may never have worshipped at the shrine of Venus, but if he has not, the chances are that he has burned unhallowed incense to unnameable strange gods, and so he brings to his bride not quite all of himself. Even so, his life after marriage may be sexually above reproach, and yet the delicacy of his moral sense has been impaired, and too often he has suffered permanent and irremediable harm.

Now, this young man has been taught—very possibly from the pulpit—that he has no right to marry until he can support a wife. The teaching was good—as far as it went—but he should have been taught at the same time that a man unmarried is only half a man, and that he owes it to himself and to society to find the complement of his being before doing anything else in life, unless some especial sacred obligation, perhaps to a disabled parent, has been laid upon him as the disciplinary burden of his young manhood. Of course, in any case, only the highest ideal of marriage as a union of congenial souls is even to be thought of.

The next lesson the young man learns from the moral teachers of the day is that he has no right to bring into being children he cannot adequately provide for. Of course he ought not. But young love is strong enough to take up burdens that a bystander would pronounce too heavy for a man, and will carry them off, too, triumphantly unless you put a damper on his courage by telling him the exact weight of the load.

Of course it is on the woman really that the weight of this particular burden will press, but that very fact makes appeal to the chivalrous feeling of the young husband. Often enough it is the courage of the woman that fails, and this is not strange. I have said nothing about the lack of preparation on her part for the duties of maternity. This is one of the things that has been almost wholly neglected in her education, both at home and in school. At all events it comes about that marriage is consummated with a proviso: there are to be no babies, at least not in the beginning; and from such a pair, married only in name, the babies stay away very naturally. Of course a man and woman may live together after marriage in a platonic relation for weeks —perhaps for months—and no fault can then be found, provided nature permits the relation to go on without injurious consequences, which is unlikely.

In passing I may say that in an ideal marriage the wedding night ought never to bring to innocent purity any revolting shock of revelation regarding the animal phase of sexual passion. In these days of feminine superenlightenment this is not so liable to happen as in the past, and yet there is no doubt truth in the complaint some women have made that the night of their wedding remained in memory a hideous experience. When man and woman love with the exalted love that places them above the brute creation, nature will bring them in time without shock to discover the way to fatherhood and motherhood.

This, by the way, simply because I believe that it ought to be said. Reverting, however, to the marriages which find place for the indulgence of sexual passion with the bother of a family left out, is it a wonder that unhallowed relations such as these, putting in place of a home a brothel, should end within a few months in a divorce suit? A brothel indeed—the revelations that are made in some of these divorce proceedings would put to shame an honest brothel.

Now, physicians are very largely responsible for the ideas of people about such sacred matters as those I am speaking about. They are consulted constantly—often with great diffidence—and their advice has the weight of authority, perhaps beyond what it is entitled to. It behooves the physician to be very sure that his counsel is based on sound ethical and physiological considerations.

The medical profession, as a profession at least, has always taken high ground regarding the sacredness of fetal life. It has not placed itself on record as unequivocally with regard to the various devices whereby sexual appetite may be gratified without the natural consequences. There seems to be, on the part of some, a disposition to wink at these practices, at least to think lightly of the ethical questions involved. There are those who will say that as physicians we have nothing to do with the ethical questions at all. We are concerned only, they say, with physiological studies. They believe, for example, that physiologically a man who has arrived at sexual maturity should have some provision for the occasional emptying of his *vesiculæ seminales* without the annoyance of nocturnal emissions, and so they may thoughtlessly pronounce what is taken by a young man as an authoritative dictum, the opinion that an unmarried man needs a vent for his sexual impulses.

So, again, the physician has often enough to insist in behalf of a delicate woman that the husband's attentions be placed under some sort of limitation in consideration of her welfare, and he becomes familiarized thus with the idea of interfering with Nature in the direction of controlling procreation, just as he has already become familiarized with the necessity sometimes of producing a miscarriage, when it is a question of adult *versus* fetal life. In the latter case he is not allowed to forget the sacredness of fetal life. In the former he is perhaps not so fully on his guard, and it is possible that he may give to a young man the impression that, as a physician, he sees no great harm in frustrating Nature's provisions for the maintaining of the race. The deeper question of the regulation and subordination of human passion in the interest of society and of high moral ideals is allowed to drop out of sight, although even from the physician's standpoint, it is of far greater consequence than the physiological one.

These questions have to do with the maintaining in existence of our race—a first condition for the maintaining of our civilization. I present them here for your serious consideration, hoping that the discussion may elicit much that I have been unable to elaborate. I have barely mentioned the unfitness of the modern civilized woman for the duties of maternity. This I believe to be not beyond remedy, but I have already taken too much of your time, and I leave others to suggest how our virile men are to be provided in the coming millennium with companions in life who shall be at the same time complete women with the instinct of maternity that shall ensure perpetuation of our race.

NEURASTHENIA.

By HORACE WARDNER, M. D., La Porte, Indiana.

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The term "neurasthenia" is to be found in "Dunglison's Dictionary" of 1833. In 1867 Doctor Van Deusen, of Kalamazoo, used it in describing a condition of nervous exhaustion that terminated in insanity; but the credit of bringing the term prominently before the profession is due to the late Doctor George M. Beard, who published an essay on the subject in 1869, and in 1880 published a book on "Nervous Exhaustion." There has been, and is now, a great deal of confusion and uncertainty as to the etiology and pathology of the disease. Like hysteria and heart failure, it has proved an additional and convenient term to cover pathological conditions of which but little is positively known. Dunglison defines it as "debility, or impaired activity of the nerves." Doctor Beard made a careful study of the disease. He published the first scientific work on the subject—a work which earned for him honor and respect throughout the civilized world. Other writers have followed, but their efforts have been along the lines marked out by Doctor Beard.

The subject being evolved in America by an American physician, has given rise to the expression "American disease." A German doctor recently called it "Americanitis." The conditions in this country, educational and social, commercial and political, in these days of steam and electricity, are such as to drive all people, with ambition, to their greatest efforts, and to overload the carrying power of brain and nervous system. These conditions do not prevail to such an extent in the older eastern countries, where ambition is crippled by social and political customs and laws. According to Beard, the afflictions grouped under the term "Neurasthenia" are little known in Russia, Germany, Italy and Spain; but are frequent in France, and still more so in England. It is a result, a by-product, so to speak, of advancing civilization, where the way is most clear to the masses of the people for obtaining the ends of ambitious efforts. Every person at birth, is endowed with a certain amount of brain capacity and potential nerve force. The machine, so to speak, is wound up at the start to run a limited time and with a limited power. No two constitutions are exactly alike in general or particular characteristics. All vary in amount of capacity and force. In working out the problem of life, the weaker are crowded to the wall. The struggle for supremacy in social life, in professional life, in business and politics, is fierce, and competition is unrelenting. This ceaseless activity and strife, this anxiety and overwork, with excesses and bad habits, exhaust the nervous and vital forces, and we find the weaker falling by the way.

Neurasthenia in the present day is passing through the same history as insanity in the past, when the insane person was believed to be possessed of an evil spirit; so now, many of the symptoms of neurasthenia are regarded as imaginations of the patients, and proof of hypochondriasis, a vague term covering symptoms which we are liable to doubt or misinterpret, the sufferer being dismissed as hypochondriac. They are the cases that tire out the physician who is glad to recommend a change of climate. There is a general agreement among writers on the subject that the afflicted are, with a few exceptions, between the ages of sixteen and sixty, namely, from the period of pubescence to the climacteric. All agree that sexual excesses, abnormal and perverted sexual abuses are responsible for a large percentage of the cases.

SIGMUND FREUD claims that neurasthenia is the result of some abnormal occurrences in sexual life subsequent to puberty. He admits that depressing factors may favor its development, but scorns the idea that overwork and household cares can alone induce it. He considers it under two heads: neurasthenia proper, the result of sexual excesses and unnatural abuses; and anxiety neurasthenia, characterized by a feeling of dread, restlessness, agoraphobia, vertigo, insomnia, et cetera; which form, he claims, can be traced to sexual influences. He urges the physician to *assume* an abnormal sexual life as a guide to the investigation of its causes as this will lead to rational treatment, after winning the patient's confidence. He also claims that all cases that cannot be traced to sexual origin are not neurasthenia.

BINSWANGER, another German physician, has recently published a treatise on the pathology and treatment of neurasthenia, in which he groups all neuropathic appearances which rest on a basis of general functional disease of the nervous system which cannot be placed in the same class with the fully developed psychoses and neuroses because of their incomplete character.

DOCTOR DERCUM, clinical professor of nervous diseases in Jefferson Medical College, in the April number of *The Journal of the American Medical Association*, takes this author seriously to task, and exposes the fallacy and superficiality of his statements. The doctor says: "Its syndrome is as definite and fixed as that of any other disease with which we have to deal." The various symptom groups occurring in neurasthenia, though differing widely in detail, always present the same essential features, and from whatever standpoint they are approached, a harmonious clinical whole, a well proportioned and well defined syndrome is seen. In the simplest form of the affection, there exists a more or less marked and persistent diminution of nervous energy, and to these symptoms are added those of increased irritability, both mental and physical. In addition to these primary symptoms, others make their appearance which are secondary in character and importance. To make the meaning clear, let us contrast the primary with some of the secondary symptoms.

First, there is a general sense of fatigue which may be diffused throughout the entire body, but is more often manifest in special parts or limbs. This sense of fatigue is always relieved or lessened by rest, and is increased by exertion. This sense of fatigue, he regards as the most fundamental of all symptoms of neurasthenia. Fatigue sensations when exaggerated, become painful. It may be a headache, backache, or pain in a leg, or an arm. Thus a person who does a great deal of walking will experience the fatigue sensations most in the legs. A physician who used his right hand constantly for many hours a day, felt the fatigue sensations accentuated in his right arm. These aches of various kinds are primary symptoms.

The secondary symptoms, which he calls adventitious, are, for example, sense of pressure, or constriction, depending upon disturbances of the circulation which are not necessary parts of neurasthenic headache. Spinal hyperesthesia, the paresthesiæ, throbbing and tremulous feelings, et cetera, are all secondary symptoms. The paresthesiæ of the sense of hearing, smell and taste, are all in the same category. Muscular weakness is a primary symptom, but tremblings and twitchings are secondary. Atonic digestion is a primary symptom; but gastric catarrh, the result of abnormal fermentation and abnormal acids, is a secondary symptom. Cold extremities and feeble pulse are expressions of general weakness, and are primary symptoms; but irregular action of the heart, or tachycardia, are secondary. Sexual weakness and irritability are primary symptoms. The various paresthesiæ, as pricking, throbbing, creeping or cold sensations, are secondary.

The first mental symptom is a lessening of the power to do mental work. To attempt it soon brings on neurasthenic exhaustion. Persistence of effort will bring on secondary symptoms, such as sense of constriction, giddiness and vertigo. Then follows loss of power of concentration, spontaneity of thought, and emotional irritability. All these are classed as primary symptoms. The sense of fear is a secondary symptom. This is manifested in various forms. The patient may have a fear of enclosed spaces (claustrophobia), or of large open spaces (agoraphobia). DOCTOR BEARD covers this group by the term topophobia. There may be fear of contamination (myrophobia), fear of disease (pathophobia). These fears at first are vague and undefined, a mere impression of something impending of a calamitous nature. Then they may take definite form. The patient fears to be alone, or has fear of death, fear of disease, or of insanity. Under paresthesiæ are grouped many sensations the patient will complain about—itching, burning, tingling, trembling, numbness, coldness, heat-flushings, aches, and others of like character—all of which are secondary symptoms.

Little is positively known as to the real pathology of neurasthenia. Inductive reasoning supports the theory that there is a deficiency of nutriment supplied to the nerve cells, or that assimilation is defective. This is a field for the microscopist and pathologist to explore. Some efforts have heen made in this direction, but the MOSES who shall lead the way and lay bare the true pathology, is yet to come. In cases that have come under my observation, I have found an excess of uric acid compounds and phosphatic deposits. The specific gravity of the urine was usually from thirty to thirty-five. This condition yields to proper treatment, so that after several weeks the urine would assume a more normal character. As this occurred, there would be a gradual disappearance of the other symptoms. In two cases lately, I have found sugar, but it was not constant. The bowels are usually constipated, requiring the use of laxatives. Notwithstanding the fact that with few exceptions, neurasthenia occurs between the ages of sixteen and sixty, the active period of sexual life, it does not necessarily follow that all cases have a sexual origin. Undoubtedly a large percentage of cases do originate from such causes; but they also arise from other causes that overtax the nerve power, as overwork or disease. Fully ninety per cent. of the work of the average life is accomplished within the period mentioned.

The sequences of neurasthenia have received considerable attention and study of late. With the exception of senile dementia, nearly all cases of insanity are developed during this period of life. "The Relation of Neurasthenia to Insanity," was the subject of an able paper by DOCTOR JOHN PUNTON,

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t must be enjoined. If it is a spinal exhaustion, the rest should be in bed. brain exhaustion, the best rest is outdoor diversion and exercise. All the gans of the body should be carefully examined. Complications will be found many cases, that should receive attention. The digestive organs must have osest scrutiny and the diet careful attention. There is no fixed rule. Each se is a study and problem by itself. Drugs should not be too freely used, and piates must be forbidden. The bromides are excellent for allaying nervous ritability, but should not be given too long without intermission. The oncentrated tincture of the passion flower I have found excellent in allaying entral irritability in some cases. I have found trional effective in insomia. When there is a congested state of the nerve centers, ergot in large loses, is of great value. The blood tonics, mineral acids, arsenic and trychnine, administered with care and attention to the effects, are valuable. Electricity, baths and massage, are very important. I mention only some of the salient points in treatment, as time will not permit consideration in detail.

In conclusion, we must not expect to cure these cases at once. It will take weeks or months, and we may expect some to last for years, a burden to themselves and friends; and some will terminate in other functional or organic disease, insanity being most prominent. The intervention of an acute disease may terminate fatally, or produce such a change in the pathology of the neurasthenic condition as to result in great benefit or cure.

WHAT SHALL WE PRESCRIBE?

By WALTER J. CREE, M D., Detroit, Michigan.

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Looking back to our student days when we sat on the elegantly upholstered benches, listened to lectures on materia medica, and learned the origin, physiological action, therapeutic uses and doses of a large number of drugs, we cherished the fond hope that in active practice we would make good use of the knowledge acquired. And what use have we made of all the medicinal agents? I venture to say that the average physician uses only a small per cent. of the drugs that he learned so much about in his student days. I believe that physicians in general use too many of the articles sent out by the enterprising manufacturer, who lauds his preparations to the skies, and backs up his statements by flattering testimonials from numerous medical men. I do not refer to the legitimate pharmaceutical preparations put up by reliable manufacturers, but to the thousand and one on the market the value of which we know nothing, except as told us in glaring advertisements or by smooth tongued agents.

It seems foolish for the educated physician to prescribe these secret preparations, when by his study of medicine he should be amply qualified to prescribe for each and every case coming under his observation. It looks as if the manufacturer was supplying the brains for the physician; and also as if the physician was acting as a middleman between the manufacturer and the public. It is a fact that after the former has squeezed the lemon—the physician—dry, he appeals directly to the public through the daily press. This procedure has been done time and time again and need hardly be mentioned. The following is quoted from *The Philadelphia Medical Journal* of March 25, 1899: "One of the oldest and newest tricks of the medical advertisement sharper is first to advertise his secret nostrum to the lay public and secure the universal use of the same by the ignorant, and then to turn about face and divulge the constitution of the drug, and through silly and covetous medical journals, advertise it direct to the profession. He tries thus to ride two horses. Occasionally the plan is reversed and when an advertiser has secured the acceptance of a preparation by the medical world he then turns his attention to lay advertising.

If he can thus get medical men to accept his preparation and testimonialize it, he has a better chance in direct lay advertising. It is quite an expert bit of work to thus hoodwink both profession and the public. But it is only possible through the avarice, or something else, of medical journal advertising departments," and, I might add, the credulity of many physicians.

Prescribing these preparations has a bad effect on the profession, for the people, or at least a large number of them, read prescriptions and soon learn that certain things are good for certain troubles, or at least think they are, or why should physicians prescribe them. They also hear the preparation spoken of by different people, and in future when they need or think they need medical aid do not call in the physician but go to the druggist and procure the medicine. To prove this go to any drug store and note the number of people calling for the secret preparations, especially during an epidemic of la grippe. I have asked several druggists to look up and let me know the percentage of prescriptions calling for these secret remedies and I am informed that about thirty per cent. is the number. A short time ago a physician in this society said to me that it was almost impossible to have an ointment dispensed properly, and as in his line of practice ointments are used quite extensively, his opinion should have considerable weight. I believe one reason that druggists do not prove satisfactory in his case is that so many of the prepared oinments are prescribed by physicians that the average druggist has not the opportunity of mixing enough ointments to keep him in training. One druggist informed me that he had received a prescription calling for Jayne's expectorant! I believe all of us have at times ordered preparations that our best judgment should not allow us to.

What shall we prescribe? My answer is to order only such medicines as are known to be legitimate preparations, and ignore entirely all the secret remedies. I believe better results would be obtained and we would treat our patients on a more scientific basis. I think the laity would have a better opinion of the profession. Another mistake we all make is to sometimes tell the patient the nature of the medicine he is taking. Repeating of prescriptions should be discouraged. If we desire a medicine continued it is far better to rewrite the prescription; it at least looks more scientific, and we would see our patients oftener and possibly to their gain. I have not thought it necessary to mention any of the preparations known as secret, as we all know what they are.

There are so many things that might be said on this subject that when one begins to write the end seems far off. I merely desired in these few rambling remarks to call attention to the things we ought not to prescribe as well as those we should.

OBSTETRICS.*

By CORNELIA E. WHITBECK, M. D., PITTSFORD, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

IN contemplating all the dangers and possibilities of parturition the physician would almost be led to feel that the care of the patient should begin at puberty. That the physical and intellectual development as well, should attain the highest perfection, would seem to be essential to the proper performance of the great work of maternity. The office of the physician is indeed a sacred one and how much of the weal or woe of the future of patients may depend upon a faithful, conscientious performance of its duties, is almost impossible to estimate. He is the trusted healer—the beloved physician—to whom the anxious mother appeals so frequently for advice concerning the welfare of her young daughter; and it is in the early years of womanhood that to a great degree the foundation is laid as to health for the future, and as this depends upon a proper establishment of its functions, all necessary means must be made use of to ensure it.

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*Read before the NORTHERN TRISTATE (Michigan, Ohio, Indiana) MEDICAL ASSOCIATION at the Hillsdale meeting.

Marion Sims describes menstruation as a "painless uncoagulable flow returning at intervals of about four weeks, lasting three, four, five or six days," et cetera. If this is performed in a perfectly normal manner, all other things being equal, and under reasonably favorable circumstances, health is secured with a decidedly fair prospect for the future. When the young maiden becomes a wife, and possibly later a mother, happy indeed is she if her counsel and care have been such that she is fortified for the added responsibilities and duties before her. Happy too, indeed, is the child who can trace his parentage to a perfect, well developed womanhood and a pure and virtuous manhood. If this might be the universal rule how much might be saved of life's deep undertone of sorrow.

The condition of the parent during gestation is well worthy of attention. This is normally a period of health, but it would seem that few, comparatively, find it so. Any considerable deviation from the normal position of the uterus from the increased weight and greater determination of blood to those organs, et cetera, will increase the malposition until, especially in retroversion, nature unassisted sometimes is incapable of completing the process. Ovarian irritation and the presence of growths may complicate pregnancy and make a condition of difficulty. A granulated, abraded condition of the os and cervix, is unfavorable during gestation and at parturition, and very liable to furnish absorbing surface for septic material, imperiling the life of the patient and in many instances resulting in lesions which continue to be a source of suffering and danger indefinitely. In fact it is evident that it is essential that the condition should be in all respects normal (although the conservatism of nature is many times surprising), and we can only feel that our full duty to our patients is done when we have by advice and requisite attention endeavored to make it so, thus promoting not only the welfare of the mother, but that of the infant as well. It seems to me it should not be beneath our notice, as far as practicable, to advise patients as to surroundings, occupation, state of mind, et cetera, during this important period. Without the fear of becoming transcendental we must feel that whatever will be most conducive to a cheerful, happy state of mind—avoidance of unpleasant sights, outdoor exercise, discarding dancing, tight, weighty clothing, improper diet, overexcitement and fatigue from any cause—is worthy of consideration by a patient and her medical adviser.

We are told that the mother of Thomas Moore devoted much time before his birth to the reading of poetry and so, probably, gave the stamp of his genius. On the other hand, it was said of the mother of the assassin Guiteau that her mind was greatly unbalanced at the time of his birth and previously. How much that condition of the nervous system in her case was a consequence, or accompaniment, of some derangememt of the pelvic organs would be of great interest to note. I have learned the following facts regarding Mrs. Latimer: She was greatly averse to becoming a mother, and was so determined that it should not be so, that during the first six months of her pregnancy, and until she no longer dared to do it, she made use of every means in her power to cause the death of the fetus. It would not be strange, surely, if the condition she was in at that time should have given rise to her son's apparently insatiable desire to destroy life, which we learn that he manifested even in childhood. In speaking of her in this relation I would not do injustice to her memory or wound the feelings of anyone interested in her, for it seems probable that her state of mind from whatever cause was such that she was hardly responsible. There are probably few physicians who have not met with women under like circumstances and who from dread of the responsibility of a family have beseiged them with importunities for assistance which would make them a party with themselves in the shedding of innocent blood. I have seen women, and good Christian [?] women, too, whose state of mind was desperate and on whom I have exhausted all my powers of reason and persuasion, not always with the result of preventing their seeking help elsewhere. The mother of Jesse Pomeroy, the boy murderer of New England, is said to have taken delight while carrying this child in utero, in watching her husband, a butcher, at his trade.

The boy's irresistible inclination to torture and slay could have had its origin in his mother's perverted taste at that time.

From the earliest ages there has been a belief that impression upon the mind of the pregnant woman would affect the child in utero, giving rise to peculiarities and defects. These impressions may give rise to mental defects and bodily defects. Mental defects may be due to strong emotional excitement of the mother during her pregnancy. A case is reported of a girl who was a congenital idiot. The mother was pregnant with this child during the civil wars of Paris and was greatly harassed with anxiety for the safety of her husband. **Baron Larry** states with reference to the seige of Landau, in 1793, that of ninety-two children born in the district soon afterward sixteen died at birth, thirty-three died within ten months, eight proved idiots and two were born with several bones broken. It could not be claimed that these results could be attributed entirely to the fear and distress of the women for the privation and suffering were very extreme.

The character of the impression is thought to be important, anxiety and grief holding the first place and fear the second, with regard to the frequency with which maternal impressions influence the mental characteristics of the child. More cases of bodily than mental defects are reported, perhaps because they would be observed at birth, whereas the mental would only become manifest when the child's mind had undergone development and by that time the mother would probably not recall the various causes which might have given rise to it. The influence of maternal impressions in producing bodily defects has been much discussed and eminent authorities have held opinions in favor of and opposed to it. **Rokitansky** says: "The question whether mental emotions do influence the development of the embryo must be answered in the affirmative. Instances undoubtedly have occurred of such maternal impressions, fright, more particularly, when violent, giving rise to malformations," et cetera. There are also sufficient grounds for believing that maternal impressions are capable of producing defects in the lower animals as well as in the human. In the light of science and investigation thus far, it would seem that although few, relatively speaking, are the cases in which deformities, et cetera, can be directly traceable to maternal impressions that it would be the duty of every physician to warn his pregnant patients to avoid violent emotions of every kind and especially of a distressing character.

A case which I saw recently with my brother is interesting in this connection. The mother was a young healthy primipara, delivered at full term of a large well developed fetus but with talipes of both feet and spina bifida. One foot was flattened and elongated, and there was an opening in the spine through which two fingers could be passed, showing the deficiency of the vertebra. The child gave a few feeble gasps for breath and uttered a moan or so, and although reasonable efforts were made to save it they were ineffectual. The mother had attended Forepaugh's show and menagerie early in her pregnancy and how much the deformities and death of her child was a consequence is not easy to decide. She was very happily situated in life and living in the country in a healthful locality.

Another case which came under my notice was one of delivery at full time, in which, at between two and two and one-half months of the gestation, the father had been attacked at the barn by robbers, shot in the back of the head and left for dead. The mother managed to escape from them when they came to the house, and remained secreted with her children for hours, until help came. She then saw her husband creeping to the house on hands and knees with a terrible wound in the back of the head. The fetus at birth exhibited a perfect facsimile of the wound in the father's head.

The various pathological conditions which unfavorably affect the fetus are by some authors classified as follows: (1) Diseases referable to maternal influences, as influence of nervous disturbance of the mother upon the fetus from the wonderful sympathy between the two; and, as one has said, "More wonderful still, the occurrence of physical defects or peculiarities in the fetus through photographic reproductions of objects that have produced a strong impression upon the mother during pregnancy." (2) The influence of elevated temperature upon the fetus. From experiments deductions have been drawn which show that a sudden rise of temperature to 106° Fahrenheit will probably kill the fetus; that a gradual elevation to this point on the contrary, need not be feared; and that a temperature as high as 109° Fahrenheit will, even though gradually produced, destroy life. (3) Defective nutrition in the mother, with its consequent anemia. (4) Diseases of the endometrium, the womb and its adnexa. (5) Poisons in the maternal blood. (6) Heredity. Of those referable to abnormal conditions of the father—as chronic lead poisoning, nephritis, phthisis, cancer, syphilis, drunkenness; infectious diseases—as variola, rubeola, scarlatina, erysipelas, malaria, tuberculosis (though rare), typhoid fever, articular rheumatism, recurrent fever, yellow fever, pneumonia, et cetera; noninfectious diseases—as inflammations of the serous membranes not dependent upon syphilis, with its accompanying exudations; some congenital skin affections—as icthyosis, hypertrichosis, albinism purpura hemorrhagica and elephantiasis; intrauterine diseases of the brain—which may consist of sclerosis, atrophy, lack of development, tumor, cysts or inflammation of the membranes; diseases of the liver whether multicystic or sclerotic; cystic disease, cirrhosis or hypertrophy of the kidneys, congenital tumors, whether solid or cystic, malignant or benign, rachitis, anasarca, spontaneous fractures in utero, luxations and ankylosis, intrauterine amputations probably from a disease of the amnion with the formation of constricting bands, perforation of the intestine, and traumatism which might result in various ways. Diseases of the fetal appendages may result unfavorably for the fetus.

My father once attended a case of confinement with twins in which the lower extremities of one child would fly up, so that the feet would be one each side of the head. And I saw a case with my brother, also one of twins, wherein one of the lower limbs would turn upward, and it was sucking its little toes while the nurse was washing it. In both cases, the limbs would remain in place after the napkin was put on, and the formation was found eventually to be normal, although in the last mentioned case there was quite a discharge of blood from the bowels the second day.

I have followed perhaps a vein of thought in this branch of the profession of less interest than some others might have been, and still, one important for the present and future of those concerned. Much might be written upon the anomalies of labor and delivery, the valuable plans for asepsis, the many new and excellent remedies brought into use, et cetera, but medical literature is so rich upon these subjects and the experience of my fellow-workers so much more extended than my own, that it would seem like egotism to attempt to discuss them at this time.

THORACIC TUMORS.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

CASES of thoracic tumor are usually interesting not only from the fact of their infrequency but also on account of the difficulty of an early diagnosis. The writer would apologize for presenting only three cases, but hopes that the simple presentation of the subject may serve to elicit a considerable record of cases occurring in the practice of his auditors.

The first case to which I invite your attention is that of a woman, aged thirty-seven years, who was married, and had one child aged three years. At the time when I first saw her in consultation, I obtained the following history:

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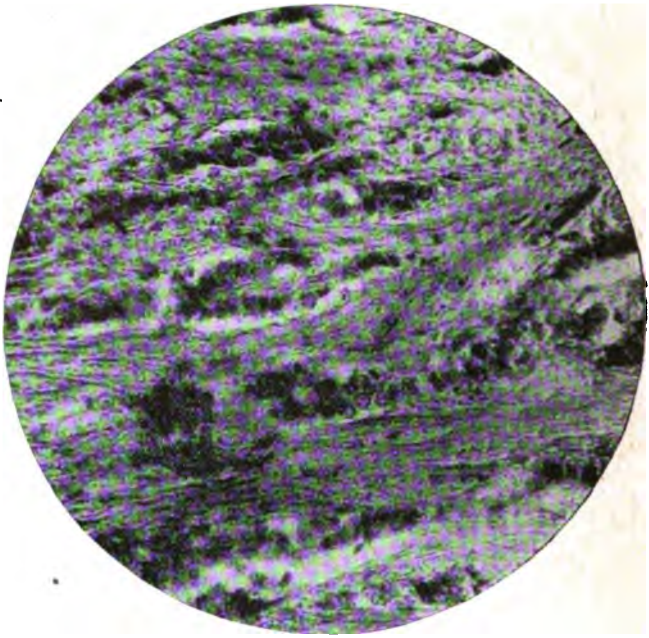
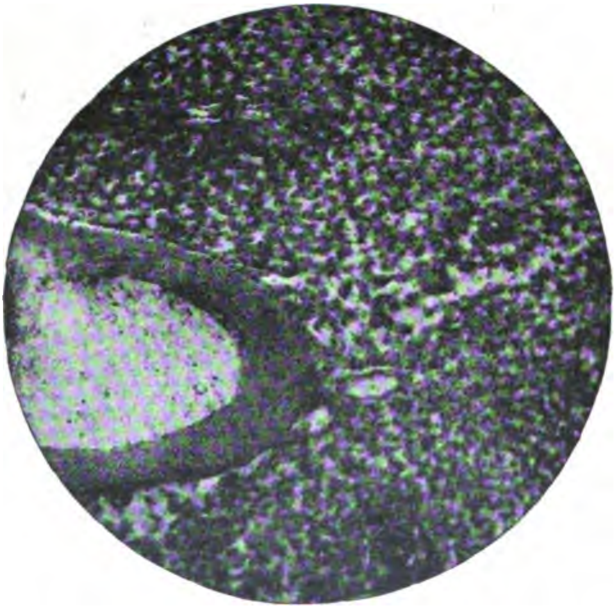
*Read before the DETROIT ACADEMY OF MEDICINE.

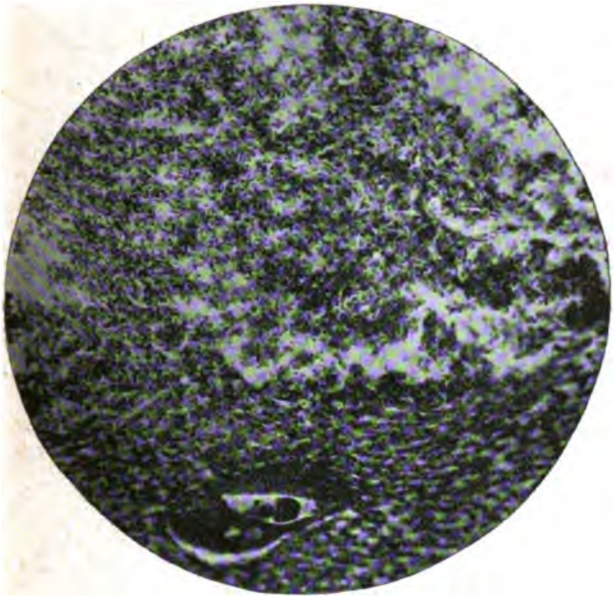
Health good until five years previous, when she noticed a lump in the right breast. Upon consulting her family physician immediate removal of the growth was advised and followed. A clinical diagnosis of adenoma was made, but there was no microscopical examination. At the operation there was no surgical exploration of the axillary or clavicular regions.


Number I.—Carcinoma of Pleura.—x200.

At the time of my first visit I found her much emaciated and showing marked dyspnea. The temperature (at 9 P. M.) was normal, while the pulse was so rapid that it could not be counted accurately. The stomach was very irritable. I was told that she had been under treatment for supposed tuberculosis. Physical examination showed a hard lump in the right breast but no ulceration. The right axilla contained enlarged glands. Bronchial breathing was heard over the upper right front and back with dullness. There was entire loss of breath sounds in the right lower front and back. The heart sounds were somewhat muffled. The left lung seemed unimpaired, although the examination was somewhat cursory owing to the exhausted condition of the patient. The abdomen was not distended, neither was there any sign or history of jaundice. Considering the history of an antecedent growth in the breast, the present return, the absence of temperature, and effusion in the affected side, I was disposed to lay aside the statement that tubercle bacilli had been found in the sputum, and felt convinced that the patient was suffering from a secondary carcinoma of the pleura and probably of the lung. Accordingly an unfavorable prognosis was advanced and palliative measures advised. The patient died three days afterwards.

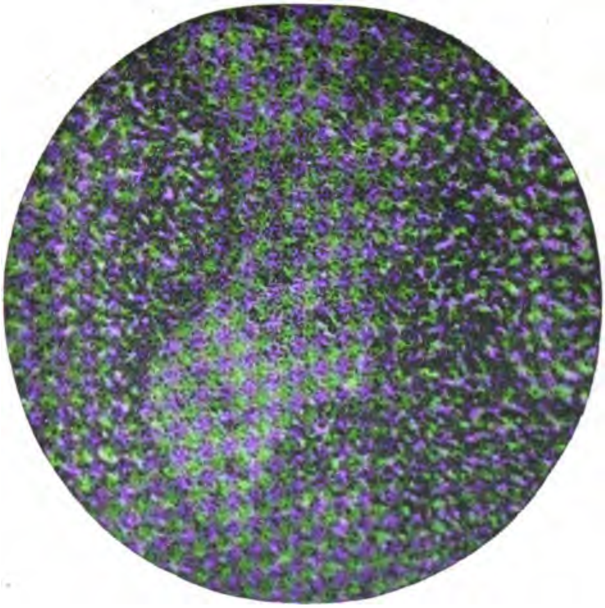

Number I.—Hyaline Deposit.—x60.

At the autopsy the right pleural cavity was found filled with a clear straw-colored fluid showing no suggestion of blood. The right lung was contracted to about the size of a man's fist and infiltrated with small hard grey nodules. The parietal pleura was coated with a thick layer of smaller nodules distributed most thickly along the line of the intercostal lymphatics. The pericardium was distended, and upon its anterior surface showed a few small neoplasms; the pericardial fluid was abnormally large. The left lung had a few nodules upon its anterior surface near the base. The diaphragm was thick and hardened with a similar nodular formation, and upon the upper surface of the liver were found the evidences of metastasis. No tubercular lesions were found in any of the organs examined. I was somewhat surprised to find the pleural effusion so great, as it was much more than I had diagnosed from my examination. This discrepancy was explained by the suggestion that the thickened parietal pleura had conveyed respiratory sounds from the small part that still remained of the right lung as well as from the left lung. The slides from the lung, diaphragm, and liver show the case to be one of carcinoma.



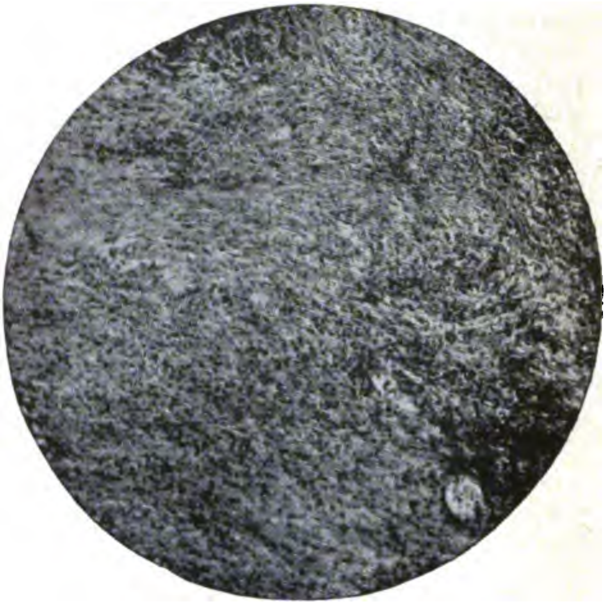
NUMBER I.—CARCINOMA, SECONDARY DEPOSIT.—x60.

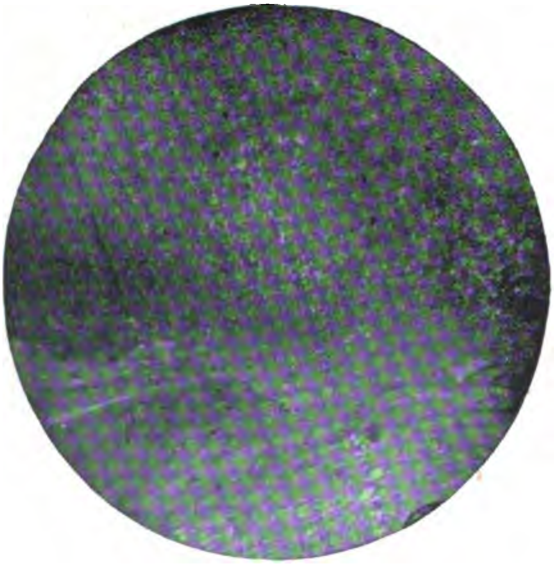
The second case that I now report is submitted through the courtesy of DOCTOR E. L. SHURLY, with whom I saw the case during the patient's stay in the hospital. A man, aged twenty-six years, American, fireman, was admitted to Harper Hospital July 14, 1898. He gave the history of having caught cold some months before, followed by persistent and increasing cough. The left side was flat over front and back and auscultation was absolutely negative. Temperature, 100°; pulse, 108. The diagnosis of effusion was made with the probability of an empyema.



NUMBER II.—SARCOMA OF LIVER.—x60.

Eighty-three ounces of clear fluid were withdrawn from the left side by aspiration. Cough and anorexia were immediately relieved, and patient returned to his home on the second day expressing satisfaction at his rapid improvement. I visited him at his home after a few days and found that the fluid was evidently reaccumulating, bringing back the cough. Accordingly one week after the first aspiration the patient returned to the hospital. The pulse and temperature had rapidly advanced, the former to 146 and the latter to 104°. Three days later, as the dyspnea was becoming oppressive, ninety-six ounces of a clear yellow fluid were withdrawn by aspiration, after which the pulse decreased to 120. No traces of blood were found either in the first or second aspirations. Bacteriological examination of the serum, as well as of the sputum, failed to show any tubercle bacilli. The patient now improved, and in a couple of weeks the fever declined by slow stages to 99° with pulse of 100. The patient was then attacked with jaundice with vivid staining of the whole surface of the body. A typhoid condition ensued, where the temperature in the evening rose to 103° and 104°. Widal's test of the blood gave negative reaction. The patient gradually failed and died some five weeks after the second aspiration.


NUMBER II.—SARCOMA OF PLEURA.—x60.


NUMBER III.—SECTION OF GUMMA.—x60.

The autopsy revealed the left parietal pleura covered with small waxy nodules which, upon microscopical section, showed a white homogeneous structure. The lung was somewhat contracted and infiltrated with similar growths, as was also the pericardium and diaphragm. Nodules were found in the liver and spleen. The microscopical examination showed the neoplasm to be a sarcoma with considerable fibrous tissue.

The third case, that of a man aged fifty-seven years, a lake captain by profession, father of two sturdy boys, presented himself for examination December 5, 1898. He stated that three years before he began to cough. This gradually increased, accompanied by dyspnea on exertion. During the last sailing season he had great difficulty in attending to his duties. The expectoration was scanty and tenacious. During the last year he had experienced difficulty in swallowing dry food, being always compelled to wash down his meals with considerable water. Lately he had found trouble in sleeping, being unable to lie upon his back for any length of time, and never upon his side. He gave a distinct history of syphilis some thirty years previous.

Physical examination showed sibilant rales over both front and back of the chest, but no impairment of the vesicular murmur. The apex beat was displaced to the right of the sternum. There was increased dullness over the right of the sternum at level of the second and third ribs. Inspection of the larynx showed the arytenoid cartilages to be freely mobile. There was history of hoarseness. No aneurysmal bruit could be heard either in front or in the back. The cough was paroxysmal and had a high pitched brassy note. The temperature was normal. The radial beats were synchronous.

From the preceding examination it seemed probable that there was some encroachment upon the mediastinal space. Aneurysm was excluded first, as there was no bruit and no signs of pressure upon the recurrent laryngeal nerves. Owing to the length of time over which the symptoms had persisted, sarcoma and carcinoma were ruled out, as malignant disease of the mediastinum has an average duration of ten months. Taking these points and the clear history of syphilis into consideration the diagnosis of gumma seemed most probable, and potassium iodide in constantly increasing doses was ordered. After three weeks the patient reported that he was much improved, being able to sleep all night with but little discomfort, even venturing to lie upon one side for a short time. The most favorable point was the partial return of the apex beat to its normal position. This favorable showing was soon broken by an attack of the grippe, complicated by pneumonia attacking the lower lobe of the left lung. This unfavorable combination proved too much for the patient's constitution, and he died January 20, 1899.

A limited autopsy was permitted, the substernal space only being allowed to be opened. Upon removal of the sternum the growth was at once seen attached to the base of the heart and pressing upon the main bronchi. The part of the growth which was removed showed the alternate layers of light and dark material, as you can see in the specimen. Long fibrous bands resembling miniature guy ropes extended from the mass to the right parietal pleura. Sections of the mass showed degenerating tissue, most probably fibrous, although the retrograde process had proceeded so far that no cellular structure can be made out.

The etiology of thoracic tumors is veiled in the same obscurity which overshadows the origin of tumors in other regions. Primary malignant tumors of the lungs are rare, carcinoma being more uncommon than sarcoma. Among the new growths of the pleura different observers class the endothelioma, while sarcoma and less frequently fibroma have been encountered.

The early signs of a neoplasm on the lung are not at all distinctive, the symptoms encountered being those common to many chronic pulmonary disorders. However, prolonged and progressive illness pointing to disorders of the lung, without the appearance of tubercle bacilli, should at least warrant the consideration of a new growth in the pulmonary tissue. The physical signs of tumors of the pleura are those of a pleural effusion. There is usually no history of pain or pyrexia. Pleural effusion from pleural neoplasm is usually confounded with tubercular effusions, and the differential diagnosis is most difficult. The operation of paracentesis is usually of but slight benefit, as the fluid rapidly reaccumulates. The presence of blood in the effusion is supposed to be of diagnostic value, but was not present in these cases.

The treatment of course is simply palliative, according to our present ideas.

CRANIAL ABSCESS.*

By KENNETH GUNSOLUS, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

IN selecting the subject of cranial abscess I have not done so on account of any extensive experience I have had with brain lesions of this character. I can call to mind a great many instances during the past twenty years where patients died with every evidence of pus in the cranial cavity, but no attempt at relief has been made by surgical intervention, and death has closed the scene. When allowed, a postmortem has disclosed the diagnosis.

When I began the practice of medicine in the early seventies, I passed through an epidemic of cerebro-spinal meningitis, the outbreak occurring in Monroe county, Michigan, invading principally the small towns located along the Raisin river from Blissfield on the west to Monroe city on the east. The epidemic began in the spring of the year, the first case occurring in March; the outbreak continued with more or less severity throughout that year and part of the next. Great numbers were attacked, the disease sparing neither young nor old and the mortality was frightful. I think I can safely say (and there may be members present here this evening who can confirm my statement) that fully fifty per cent. succumbed to the disease. I have reason to believe that a great many died because of pus in the cranial cavity, and the attempts at relieving that condition by surgical intervention were very few indeed.

The onset of the disease in most of the cases was rapid, usually marked by a severe chill, followed by high temperature, great pain, intense headache, convulsions, coma and death, the duration of the disease being from three to two hundred and ten days. In my opinion the majority of the fatal cases succumbed before the end of the third week, and the cases that extended beyond three weeks were accompanied by localized symptoms such as paralysis, recurrent chills, fever of a remittent type, intense headache (occipital), double vision when the lesion was in the neighborhood of the pons, coma and death. The surgeon did not come to the relief of those cases for brain surgery then, and for many years later, was in its infancy. True it is that about fifty years ago DUPUYTREN, at the Hotel Dieu, plunged a bistoury into the cerebral hemisphere of a man suffering from cranial abscess, and the patient recovered. Some years later (1849) DETMOLD attempted the same bold act, and emptied the contents of a cranial abscess, but his patient died. While the profession looked on with amazement at these bold procedures they seemed to think that the success of DUPUYTREN was only accidental. Like McDOWELL, of Kentucky, the first ovariotomist, these operators had no immediate followers, and years elapsed without anything further developing to place cerebral surgery upon a scientific basis. However, such surgical interference has been done by men of today and their achievements are in the memory of most of us. I need not mention their names as they are known on both sides of the water and have accomplished wonders in the past few years to place the science of cerebral surgery upon a true and secure foundation. While there is an increasing field for the general surgeon in this branch of our science, there is newer work and more attainments for the ear specialist in the same direction, for it is conceded and statistics show that more than one-half of the cases of cranial abscess arise from a suppurative process in the ear. Occasionally they arise from acute inflammation of the ear, but much more frequently are a sequel of chronic ear disease, scarlet fever, or some of the exanthemata, that may follow years after the attack. The location of such abscesses is generally in the temporo-sphenoidal lobe and consequently from disease of the petrous portion of the temporal bone.

The next most frequent cause of cerebral abscess is traumatism, more frequent when the injury is severe, as in compound fracture of the skull. The condition may be caused by simple injury of the skull with slight or no cerebral symptoms. This circumstance should be borne in mind in the consideration of the so-called idiopathic cerebral abscesses, the injury giving rise to the symptoms having been so slight that the patient had no recollection of having been injured. Whether the injury be slight or severe, the abscess is usually found at the seat of the injury. In rare instances, as in *contre-coup*, the abscess occurs in the cranial cavity opposite to the side of the head on which the blow was received, so the location of an abscess must be fixed by considering not only the site of the injury but the focal symptoms as shown by cerebral localization.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

I think we often regard these slight injuries of the head too lightly, for frequently the gravest consequences follow. For example, a man may suffer a slight concussion of the brain, may be unconscious for a few moments, but gets up and goes about his business. Later he takes sick with headache, loss of appetite, bowel irregularity, and passes restless nights. Inflammation of the brain soon sets in and an effusion of pus takes place, followed by symptoms of compression, rigor, delirium, coma and paralysis, and the patient dies and a collection of pus is found between the skull and dura mater or beneath the dura mater. Conditions similar to those resulting from concussion may follow an almost imperceptible bruise upon the scalp, or the symptoms may have been preceded by a small wound upon the scalp, the blow having detached both the pericranium and the dura mater. Again, there may be an insidious development and the rigor, delirium, stupor and paralysis appear, plainly indicating the formation of pus.

Although disease of the middle ear is first and injury is second in importance as causative factors in cerebral abscess, we may mention extension of inflammation from caries or suppurative processes in the orbital cavity, the antrum of Highmore, the nasal cavity through some of the foramina at the base of the skull, and caries of the bone in this region. Some have observed a connection between cranial abscess and pulmonary diseases of various kinds. **Boettcher** has reported a case wherein cranial abscess was scondary to pulmonary abscess, and was able to detect pulmonary pigment in the pus contained in the cerebral abscess. It is altogether probable that in cases of this kind the secondary abscess in the brain is the result of infection through the blood or lymph channels, just as in caries of the petrous portion of the temporal bone when the carious process has not extended to the inner surface of the bone and involved neither the dura mater nor the pia mater. Here, also, the lymph and blood-vessels carry the infection, and lastly we have the so-called idiopathic abscess, the existence of which some so stoutly deny. The number of abscesses of this nature are being constantly narrowed down since we more often resort to postmortem examinations.

Symptoms of cerebral abscess may be divided into three classes: (1) Those due to suppurative processes; (2) those due to pressure; and (3) those with focal or localizing symptoms.

In suppurative processes in other parts of the body there is usually a rise of temperature, but in cerebral abscess the temperature as a rule is either normal or subnormal, even when the other symptoms indicate fatal results. The local temperature rises even if the bodily temperature falls below the normal. If, then, in any case following an injury to the skull, symptoms of serious pressure appear, the bodily temperature remaining normal, or subnormal, while the local temperature rises and the pulse is slow, the first thought of the surgeon should be that he probably has to deal with abscess of the brain.

In the class due to pressure, headache is one of the most important and constant symptoms, and of such an extreme type that the patient will constantly moan. The headache is sometimes located at the focus of the lesion and therefore serves as a guide to the abscess. The pulse usually falls to thirty or forty beats per minute, the respiration is of the Cheyne-Stokes variety, the mental condition soon becomes impaired, as pressure increases the patient becomes comatose, often the bowels and bladder act involuntarily, ptosis and paralysis of the entire third nerve sometimes occurs and the pupil on the same side is generally dilated. In the epidemic to which I referred in the first part of this paper, I have seen all these symptoms exist. For a few days the symptoms might be so ameliorated as to give hopes for the recovery of the patient only to relapse into a worse state than before. When the abscess exists in the cerebellum there is occipital headache and rigidity of the neck and the diagnosis is obscure.

In the third class with focal or localized symptoms, the location of the abscess may be inferred. The left temporo-sphenoidal lobe being adjacent to Broca's convolution, a very common result of an abscess in this lobe will be motor aphasia; and, if the abscess be large, there may be paralysis of the opposite side of the face, followed by paralysis of the arm, or there may be a complete hemiplegia of the opposite side. If the disease of the ear has implicated the seventh nerve in its passage from the petrous portion of the temporal bone there will be palsy of the same side of the face; then the condition of the pupil will aid us. If the angular or supramarginal gyrus be involved there is apt to be the monocular Argyll-Robertson pupil. The local temperature of the two sides of the head should be taken, remembering that the left side of the head has normally a little higher temperature than the right side.

Differential Diagnosis.—It is often difficult to differentiate between meningitis and abscess, but the rapid course, high temperature, intolerance to light, and active delirium are important factors in indicating meningitis. Mastoid disease sometimes causes serious symptoms without abscess, but a careful consideration of the symptoms will eliminate this as a factor. Mastoid disease is usually accompanied by pain, swelling, edema, et cetera, in that region. Usually the difference between tumor and abscess can be recognized; yet, in some cases, it is difficult, if not impossible. The development of the tumor is slow in comparison with abscess and is attended with distinct focal symptoms from the time when its appearance is first manifested. Then, again, abscess is usually secondary to a similar condition in the ear, nasal or orbital cavities, or is the result of injury, whereas tumor more commonly develops without association with an injury or the conditions just mentioned. Tumor is more liable to exist in portions of the brain other than the cerebellum or the temporo-sphenoidal lobe, which are so often the situations of cranial abscess.

Treatment.—Drugs of any description amount to nil. The only treatment of abscess of the brain is evacuation of the pus and good drainage. The surely fatal results that follow cranial abscess indicate this surgical interference. I shall not enter upon the technique of the operation. I might add, however, that the operator must have a thorough knowledge of the anatomy of the parts in order to avoid the large sinuses and other vital structures. The operation has entered upon an entirely new career since the establishment of the doctrine of cerebral localization. In the last few years abscess of the brain has been frequently and accurately located and successfully operated upon by a number of surgeons.

THE TREATMENT OF PUERPERAL ECLAMPSIA WITH VERATRUM VIRIDE.*

BY GEORGE G. GORDON, M. D. DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

IN choosing the subject I have for this evening's paper, I do not expect to present anything new in regard to the treatment of eclampsia, but by bringing the subject before the society, to draw out individual experience in the use of veratrum in the treatment of this condition, whereby we may all obtain a better knowledge of the value of this drug, if valuable it be. Neither am I here to advocate the use of veratrum to the exclusion of all or any other well recognized method of treatment. A better acquaintance with the remedy is what we wish to obtain, and the preparation of this paper has given me some, its discussion, I know, will give me more, and in this way I trust we may all receive benefit. In my quotations from writers on this subject I have been particular to mention both those who favor and those who object to its use.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

In the first place I wish to report two cases treated by this remedy. One of the cases had other treatment in conjunction with the veratrum viride and was not probably a severe case of itself, or was not a severe case because of prompt treatment. The other case was treated with veratrum to the almost total exclusion of all other remedies, was in the desperate condition when she came in my charge, and the prompt effect manifested at the time is one of my reasons for wishing to discuss its use here. This case was reported orally to this society at the time and the remarks on that occasion showed many familiar with, while a few were surprised at the dose I gave.

Case I.—A multipara was seized with a convulsion, antepartum, but at nearly the expected time of confinement March 2, about 5 P. M. I was immediately called and she had a second convulsion just as I arrived and about fifteen minutes after the first one. I began the administration of chloroform at once, and as this was a case in which the question of inducing labor might arise, I asked for counsel. DOCTOR JAMIESON was called and we soon decided not to interfere with the natural course of the pregnancy and bled the patient eight or ten ounces. DOCTOR JAMIESON suggested trying veratrum viride and we gave her fifteen drops of the fluid extract hypodermically. She had one convulsion while we were bleeding her, owing, I think, to suspending the use of the chloroform. Veratrum was given by the mouth in five drop doses every one or two hours, sufficient to keep the pulse below 70. One twenty-grain dose of chloral was given. No more convulsions occurred. Patient soon became conscious, natural labor came on about 6 P. M., of the 3d, and in about half an hour she gave birth to a healthy, living baby girl, during my absence. She made a rapid and uninterrupted recovery.

This case would, I think, have done well and recovered under the chloral and chloroform treatment, but I have never seen under that treatment the complete relaxation of the muscular and nervous systems that seemed in this case to follow the administration of the veratrum, and I feel sure the convulsions were much more easily controlled by it than they would have been by the chloroform and chloral.

Case II.—A primipara, aged about twenty; convulsions postpartum. I did not attend this case in her confinement, but was called about 1 P. M., when she had the first convulsion. On my arrival at the house, she was apparently all right and the husband thought he had been unnecessarily alarmed. He said the baby had been born about 9 A. M., and she had seemed to be getting along all right until she had a kind of fit, but she was out of it now and probably it was nothing much to have been anxious about. He said she had a physician from down town, a man he did not care very much about, but as she wanted him he had made no objection. I asked him if he had sent for him and he said no. I insisted that he should do so, telling him I would remain until he came, but preferred not to do anything in the way of treatment until he came if I could avoid it. I also informed him that the condition might prove a serious one and she must have treatment, but it should be given by the physician who was with her when she was confined, that in fact I would not take charge of the case under the circumstances. Patient seemed quite conscious during this time and I talked with her for a few minutes after her husband left and then sat down to read. In about fifteen minutes she was seized with a second convulsion and as I did not have anything to give her except morphine, I gave her a hypodermic of one-fourth grain. She had just begun to regain consciousness from this attack when her husband returned, and was moaning and complained of pain in the right shoulder, but before I had time to examine it the attending physician arrived and after relating the conditions as I had found and seen them I withdrew. Before going I was particular to call his attention to the shoulder and suggested examining it and if a dislocation had occurred I would assist him to reduce it. His answer was "that is not necessary; she will be all right." The husband followed me out to the street and asked me a good many questions and again informed me that this man was not his choice, and that he did not have much confidence in him.

About 11 P. M. the husband came for me again and wanted to know if I would go and see his wife, accompanying the request with an apology for asking me to go, as he said he was sure his wife was beyond help, but he could not think of her dying without some effort having been made to save her life. My next question brought the information that the supposed competent physician I had left in charge of the case at 2 P. M. was a Christian Scientist, and that nothing had been done for the woman since that time.

I went at once and found the case in what I thought to be a very critical condition. The convulsive movements were continuous, froth issuing from the firmly locked jaws, respiration so frequent that I did not count them, pulse 150, small and hard. The history of the case from the time I left up to 4 P. M. was that she had eight or ten convulsions, but from 4 P. M. she had not seemed to stop the convulsive movements for only three or five minutes at a time. I gave at once (without consulting the eminent Christian Scientist) fifteen drops of the fluid extract of veratrum viride, and also commenced the inhalation of chloroform, but I did not push the chloroform to complete anesthesia. Before the end of thirty minutes the convulsive movements were less marked and at the end of an hour had entirely ceased, but the coma still existed. At this time I gave ten drops more of the fluid extract of veratrum viride and at the end of the second hour eight drops, and then five drops at the end of the third and fourth hour. Soon after giving the second dose the pulse was found to be only 75 and remained at from 65 to 75 from that time until I ceased to give the veratrum, which was continued for two days. It was given by the mouth after 6 A. M. My directions to the nurse were to give five drops every hour unless the pulse fell below 65, in which case to reduce the dose to three drops; if the pulse rose above 70, she was to increase the dose to eight or ten drops. I intended to give an enema of chloral (twenty grains) but the condition of perfect relaxation that came with the improvement in the circulation and the rapid improvement in all the distressing symptoms, led me to depend entirely on the veratrum viride. At 4 A. M. I catheterized and obtained about six ounces of urine, normal in color but on application of heat the coagulated albumin was fully eighty per cent. of the depth of the urine in the test-tube. A specimen passed at 4 P. M. showed only about twenty-five per cent. as much coagulated albumin as the one at 4 A. M. The recovery was rapid and uninterrupted. The second convulsion caused a dislocation of the right shoulder, which caused the pain she complained of when I left her in charge of the Christian Scientist in the afternoon, and was a condition he regarded as not worth giving any attention. This patient had also been up, after the baby was born, and walked across the room to the register and warmed her feet.

This case illustrates very nicely, I think, the therapeutic value of veratrum in puerperal eclampsia, as there was practically no other remedy used, although I did not then expect to depend on it entirely nor do I now advocate doing so. Every case of puerperal eclampsia is to be treated according to conditions presenting themselves to us at the time. Before using veratrum as in these two cases, I had treated my cases with chloroform and chloral. In one case, my first, I used also morphine (hypodermically), bromide and fluid extract jaborandi. My cases have all been of a mild type, except case II reported here, and have all recovered. I still expect to use chloral and chloroform, but I should not think I had done all for my patient that I should do, if I neglected to use veratrum, unless some condition of the pulse contraindicated its use, and I think we will very rarely meet with such a case.

DOCTOR FEARN, of Brooklyn, New York, seems to be most frequently quoted as being the first to advocate the use of veratrum viride in eclampsia. He reported cases treated with it about thirty years ago, and **Doctor Jones**, of New York, in *The Medical Record* of April 25, 1896, credits **Doctor Baker**, of Eufaula, Alabama, with having used it in 1859. **Doctor Benjamin Edson**, of Brooklyn, in *The Medical World* for 1897, says of veratrum: "From some experience and some opportunities for observation I am fully convinced that the one reliable thing to use in puerperal convulsions is veratrum viride. A preparation of known strength should be used, the Norwood's tincture being as good as any. A little more than thirty years ago **Doctor Fearn**, of Brooklyn, read a paper before the Kings County Medical Society, in which he stated that in a case of puerperal eclampsia he had given nearly a drachm of Norwood's tincture of veratrum viride, and the patient recovered. It is putting it mild to say that the statement was received with incredulity by the members of the society. Some of the older members gave it as their opinion that no person ever took such an amount of the active drug and recovered."

Doctor Fearn recommended it in doses ranging from fifteen drops to a teaspoonful repeated every five or ten minutes until the pulse became soft or vomiting occurred, and continued its use for some hours in doses sufficient to keep the pulse below 50.

Few had the temerity to imitate **Doctor Fearn's** example, but some used the drug cautiously in unusual doses and were agreeably surprised at the recovery of some unpromising cases.

A medical friend of mine recently made a thorough search throughout the literature of green hellebore and was able to find only a single recorded case of death from it taken either accidently or as a medicine.

I have seen death from puerperal convulsions when cloroform, chloral, morphine and bromides have been used, but rarely when veratrum viride has been freely used in season and fearlessly pushed. One or two drachms may be sufficient, but there is precedent for using an ounce or more if needed.

In an article by **E. P. Hurd**, of Newburyport, Massachusetts, in *The Therapeutic Gazette* of November 15, 1889, I find this: "It is claimed that this remedy is without danger, but considering the cardiac depressant properties of veratrum, it is not probable that the profession generally will ever be persuaded of the safety of these large doses and prefer this drug to chloroform." In a footnote he quotes **Doctor Battey** as saying that in Georgia it is highly esteemed in puerperal convulsions but that he would feel reluctant to perscribe it in one-half drachm doses, such doses not being devoid of danger. He also quotes **Doctor Staples**, of Dubuque, Iowa, as having used it for nine years with uninterrupted success. He used it in smaller doses combined with tincture of aconite root, four to six drops of Norwood's tincture to two or three of aconite root. In one case, profoundly comatose, wherein all other remedies had seemingly been exhausted, the patient recovered under this treatment. He found the two drugs combined more efficacious than the veratrum alone while a smaller dose was required.

Doctor Davis, in *The Virginia Medical Monthly* for April, 1894, says: "Veratrum viride will control puerperal convulsions if administered in large doses, and it is perfectly safe to administer it in sufficient quantities to control any case of convulsions." He reports that cases to prove his remarks are based on actual experience. He used it in twenty to sixty drop doses and in all forms of convulsions.

In a leading article in *The Therapeutic Gazette* for March, 1896, after referring to the opinion of several writers, the author says: "Among persons who are accustomed to obtain by five or ten drop doses of the tincture of veratrum viride, marked circulatory sedation in the early stages of acute inflammatory processes, the massive doses that are recommended by obstetricians will seem unsafe, but a careful examination of the subject seems to prove that in reality the boundary line of danger is not passed when these doses are given. In the first place, there are a large number of cases on record in which poisoning has been produced by much larger doses than any employed in obstetrics, with recovery as a result, and we all know that the number of casualties from the ingestion of the drug in any dose is very small." The writer also prefers the fluid extract or normal liquid to Norwood's tincture.

In the same journal for June, 1896, Doctor Coston, of Fayetteville, Tennessee, says: "Tincture of veratrum viride in twenty-five drop doses, given hypodermically is the best of all of many remedies that have been brought forward as worthy of trial in these cases." He reports a case of antepartum convulsion seen in consultation which continued postpartum for two days under full doses of morphine, but were controlled by one hypodermic injection of twenty-five drops of the tincture of veratrum viride. This patient had four convulsions in the last hour before the veratrum was given.

In the same journal for August, 1896, Jewett in reviewing an article by Doctor Jones, of New York, says: "Experience seems to justify the statement that no convulsions will occur while the patient is sufficiently under the influence of veratrum to hold the pulse below 60."

Doctor T. G. Davis, of Bridgeton, New York, and Doctor Reamy, of Cincinnati, Ohio, both report cases treated by veratrum, combined with morphine, and think the morphine prevents unpleasant effects.

Doctor Love, of Orange, New Jersey, also recommends it, and claims never to have had to resort to radical measures for the induction or acceleration of labor in eclampsia, and to have carried his cases safely through.

Doctor Jones says: "In the actual presence of convulsions, we should endeavor to overcome them by the use of proper medicine and remedial measures, notably the use of veratrum veride, morphine, chloral, and chloroform, rather than resort to rapid emptying of the uterus. In veratrum viride we have a remedy powerful for good when properly used, but of Norwood's tincture it is better not to use more than five or ten drops for the initial dose, to be followed by doses of five drops at intervals as required to hold the pulse, and it is well to combine it with morphine."

Doctor Edgar, in *The New York Medical Journal*, says: "There is no drug, with the possible exception of chloroform, that is of so much value in eclampsia as veratrum viride."

Doctor A. B. Whitney, in "Therapeutic Brevities," in *The Medical Age*, December 26, 1896, says: "I invariably use veratrum viride, the green tincture exclusively; it rarely causes sickness or nausea. I give it in large and small doses, according to circumstances, always in water; one to four drachms in one-half or one-third of a goblet of water, sweetened, one drachm every ten minutes until convulsions cease, and then extend the intervals to thirty minutes, forty-five minutes, one, two, three or four hours, according to circumstances. If there is much depression I give stimulants at intervals between convulsions. If the case is severe, I sometimes give a hypodermic injection of five, ten or twenty drops, with one drachm of warm water, instead of giving by the mouth. I like the hypodermic use of it and it is safe beyond peradventure. After one has become acquainted with its effects I know of no other remedy that can take its place in this frightful disease. Veratrum is my main reliance in convulsions, either before, during or after confinement, and I have used it for more than thirty years without a single fatal case. Doctor Love has also used it for over thirty years and not lost a patient from puerperal convulsions in that period though he reports twenty-four cases."

Doctor W. W. Parker, of Richmond, Virginia, reported a case to the Richmond Academy of Medicine and Surgery, in July, 1890, that had been treated with veratrum, together with venesection and chloroform, with recovery and expresses himself as having great faith in veratrum for the relief of puerperal convulsions.

Doctor L. Mangiagalli recommends veratrum for the preventive and curative treatment of eclampsia. (*The American Journal of Obstetrics*, Volume XXXV, page 146).

DOCTOR McLANE has not used veratrum as he has not seen a case with pulse strong enough after labor to employ it. (*Ibid*, Volume XXXV, page 435).

DOCTOR J. B. SHOBER reports a case (antepartum) treated by veratrum successfully after morphine, chloral and bromide of soda had failed to give relief. As high as forty drops every four hours were given for twenty-four hours. (*Ibid*, Volume XXXV, page 788).

The use of veratrum is defended by DOCTOR J. ADOLPHUS. (*Ibid*, Volume XXXVI, page 397).

DOCTOR POTTER, in a paper read before the State Medical Society of New York, says that it is a cardiac depressant and a dangerous remedy if pushed to the extent that will control convulsions.

DOCTOR J. C. EDGAR, in *The Medical Record* of December 26, 1896, says: "It is second in value to chloroform only. Provided the pulse be strong as well as rapid, it is the most certain means at our command for temporarily and even permanently controlling convulsions. As a temporary measure in antepartum and intrapartum convulsions, and even as a curative means in postpartum eclampsia, veratrum viride will, we believe, accomplish all that has been claimed for it."

DOCTOR THEOPHILUS PARVIN, of Philadelphia, in *The Medical Record*, September 26, 1896, says: "I believe veratrum is better than any other drug yet employed, and it does effect the essential cause as well as to a great degree the symptomatic condition, for it notably reduces the frequency of the pulse and convulsions occur only in very exceptional cases if the pulse be kept below sixty; it increases the activity of the skin; it reduces temperature; and it causes increased secretion of urine. Finally, the recovery of so large a number of mothers, about ninety-two per cent., when veratrum is employed, proves the value of the remedy."

In *The Journal of the American Medical Association* for May 8, 1897, I find this by DOCTOR S. RUMBLE, of Georgia: "Veratrum viride is not only an unreliable remedy but one fraught with danger in this disease." This writer does not favor blood-letting either.

In *The American Journal of Obstetrics and Gynecology*, for July, 1893, is a paper by DOCTOR CHARLES GREEN, detailing the results in the Boston Lying-in Hospital, from 1885 to 1892 inclusive, but he does not mention the use of veratrum. In the discussion, however, DOCTOR KING, of Washington, District of Columbia, said: "I may mention that in one case of puerperal convulsions I used fluid extract of veratrum viride hypodermically and while it controlled the convulsions yet the woman died." In the same discussion, DOCTOR M. D. MANN, of Buffalo, said: "I have used veratrum and believe my attention was called to it by DOCTOR KING and must say I was exceedingly well satisfied with the result. While my statistics are not at hand, yet I have employed it in a number of cases and the results have been better than by any other means. I should limit its use to those cases in which the pulse is rapid and the tension comparatively high—a class of symptoms we commonly meet with. I always use it hypodermically." In closing the discussion DOCTOR GREEN said: "With regard to veratrum viride I am not aware it was tried in my cases. The feeling was quite general among the doctors that it was a drug that promised well under those conditions."

From *The Journal of the American Medical Association*, for April 14, 1897, referring to a paper in *The Boston Medical and Surgical Journal*, for April 1, 1897, I quote the following: "DOCTOR W. H. THAYER claims that in puerperal convulsions he has found a condition of the nervous system that begets a peculiar tolerance of certain drugs, especially veratrum viride, so that the officinal dose has no effect. But large doses quiet the nervous erethism, producing a decided effect in a short time—sometimes in fifteen minutes, but most certainly within an hour—and keep the nervous system under control for several hours. The administration is followed by cooling of the surface, great lowering of the pulse in rate, but not in strength, and along with this complete arrest of the convulsions. The state of the pulse is the guide in treatment. From a high rate, which rules in the disease, it is reduced to the normal standard or below it; and while it is kept below 60, there need be no fear of a recurrence of the paroxysms. When this effect has been produced, it will continue several hours, and a single dose wlll do it; if not apparent within an hour or less, the medicine must be repeated in smaller doses; and it can be safely repeated at intervals until the pulse begins to fall. With the pulse for a guide, no untoward symptoms need occur from its use; the pulse may be brought to 50 without any general depression; if carried so far as to produce vomiting we may find great prostration produced by the nausea, which is overcome within thirty or forty minutes by opium or any diffusible stimulant, perhaps in less time by a solution of morphine hypodermically. The employment of veratrum viride in large doses in puerperal convulsions was first reported to the King's County Medical Society by DOCTOR HERBERT FEARN, of Brooklyn, in 1869, substantiated by cases in which he had used drachm doses of the tincture—somestimes required to be many times repeated—with favorable results. Since 1869, when DOCTOR FEARN'S paper was read, the treatment of puerperal convulsions with veratrum viride has been slowly gaining favor, of which we have evidence in many communications to various societies and medical journals.

BARTHOLOW, in his "Matèria Medica and Therapeutics," (1888), says: "DOCTOR SULLIVAN, of San Franciso, informs me that veratrum viride (half a drachm of the fluid extract every fifteen minutes until nausea or vomiting ensues) is valuable in puerperal convulsions. BARKER, in his "Puerperal Diseases," had already called attention to its utility, and BOYD confirms the previous observation. Increased experience adds to the testimony regarding its exceptional value in the relief of this formidable malady. The experience of one general practitioner in puerperal convulsions is not very great; but in the convulsions of children I have regularly employed veratrum for twenty years past with excellent effect, and as a prophylactic in ephemeral fever in children who are subject to convulsions. I believe the use of veratrum viride in puerperal convulsions originated in Brooklyn, where its value is now generally recognized. It has gained ground elsewhere, as rapidly as could be expected of the management of an affection so infrequent, and promises in time to supersede all other methods of treatment."

428 LINCOLN AVENUE.

TRANSACTIONS.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, FEBRUARY 28, 1899.

THE PRESIDENT, FREDERICK W. ROBBINS, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR PRESTON M. HICKEY read a paper entitled "Thoracic Tumors." (See page 221.)

DOCTOR E. L. SHURLY: I saw the postmortem of one of the cases and made the doctor commit himself to a clinical diagnosis before the examination. I had never seen any case like it before. The case of thoracic gumma shows how symptoms of dyspnea had come from pressure.

DOCTOR W. R. PARKER: I think that the clinical diagnosis was necessary to the pathologist, as shown in the gumma case wherein there was little evidence of gumma present.

Doctor Robbins: While the paper is rather beyond us, yet there are many points to learn from it. The case of gumma reminds me of a case that I had a few years ago. A lung specialist diagnosticated it gumma in the thorax while I thought it a case of pleurisy with effusion, and I have no reason to think it otherwise even now. The first case shows that nodules of the breast even if regarded as probable fibromata had better be removed because they may prove to be carcinomatous. I lost a case a few years ago when the woman after an injury requiring sutures, et cetera, to repair it later developed a nodule. This was operated upon but not very thoroughly. Later a secondary growth appeared in the axilla and after a number of months she died. I recall another case of a woman of middle age with nodule, but no other symptoms of malignant growth, who later died from the trouble. The only excuse for us to remove a tumor without going into the axilla and doing a thorough operation is when we cut down and find an encapsulated growth.

Doctor Hickey: There is always difficulty in the diagnosis of pleural tumors. The second case was considered clinically to be a tubercular pleurisy, but under the microscope sections were found to be sarcoma. The third case was called gumma by exclusion and because of the marked improvement under iodide of potash. If he had not had lagrippe he might have recovered. It was interesting to see how the heart had been displaced and gradually returned under treatment. The duration of malignant tumors of the mediastinum is on the average ten months.

STATED MEETING, MARCH 14, 1899.

The President, FREDERICK W. ROBBINS, M. D., in the Chair.

Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor A. B. Lyons read a paper entitled "Conservation of Our Nineteenth Century Civilization." (See page 209.)

Doctor Carstens: This is an excellent and thoughtful paper, such as the writer usually gives us, yet the subject is intricate and complicated. While it may be that the great men of today are from the country, yet there is doubt whether the country has done it all. Heredity comes in. We are the products of environment plus heredity, with heredity the chief factor to overcome. The boys in our cities are not properly developed; their bodies are weak, and they break down physically and mentally because they have no capacity. I endorse the idea that boys should be made to do something with their hands no matter what vocation they may take up. I agree with the sexual ideas suggested in the paper. People ought to have children when young. They are then more enthusiastic and can better train them. It is a difficult problem how to support a wife and family, yet there should be no restraint to the number of children.

Doctor E. W. Jenks: It seems that the paper has touched upon unsolved social problems. I agree that there should be manual and industrial training for children. I am a firm believer in heredity and atavism. Unquestionably education is followed by degeneration, because it is imperfect education—a mere intellectual training—when it should be complete, moral (religious), physical and intellectual. I call to mind two state institutions, the State Industrial Schools, to which the inmates are sent from the criminal courts. The boys enter just at the age that they would begin a life of crime. Eighty per cent. of these boys become normal men. They all spend a certain amount of time in manual and intellectual labor. In the girls' school there is a similar training, but the results are not so good; about fifty per cent. become normal, about thirty per cent. become prostitutes. Our system of education in relation to crime is wrong.

Doctor Wyman: I wish to commend the paper. It brings to our minds a deep subject. Papers coming from medical men cannot help but affect the people. The congregation of the population in the cities has increased in the last twenty years, but there seems a disposition to change this matter, because of the multiplication of means of transportation. The steam engine built up the cities; wind and water built up the little villages, and electricity will do the same thing again. In reference to the physical questions, I would call attention to the fact that physicians are not to blame for all of it: pseudomedical education has done much.

Doctor Wilson: Everything the writer has said was good. The application is the difficult part. The substance of the paper is that education should be manual, moral and intellectual. Any one kind makes lopsided characters.

Doctor Tibbals: The paper and discussion has brought us into a field not often traveled, and has opened many unsolved problems. Social life as regards the sexes is not much different than that of one hundred years ago. There always has been immorality and prostitution and the various types of perversion. It will last until the parents impress the proper training on their children.

Doctor Chittick: Women are little prepared for married life, and yet both men and women are passionate. The doctor cannot touch the religious side of it, nor can the schools. Manual training is necessary in cities. One point neglected is in allowing young children to go to theatres.

Doctor Bigg: The paper is quite as remarkable for the invisible lessons which it reads, as for the thoughtful ideas that the author has transcribed with his pen. There is, for example, no *written* reference to the culture of the *moral* element, and yet the doctor is quite too profound a philosopher to ignore the importance of that third item in the tricomposite constitution of man. Hence, while not designing to utter a special plea, at this hour, for religious instruction *per se* in the public schools, I feel warranted in discussing this subject, in laying due stress upon parental responsibility on this vital point, which by keeping in the view of the expanding child-life the objective *example*, shall, at the same time, instill into that life those benign influences and lessons which, when early begun, make so powerfully for right living. Anything that tends to the reversal of this, it seems to me, cannot fail of a fatal abridgement of the attributes of an all-round manhood or womanhood, and thus of ideal citizenship. The evils of the artificial life, which are so well set forth, constitute a problem of profound interest, and but for the hope that they may prove self-curative, would form a dangerous menace to the national life. Fortunately for us, the proportion of our people who can choose their mode of living, is a large one; we are also a teachable race, and hence there is ground for a legitimate optimism in the outlook regarding our future. As time passes, more attention will doubtless be given to the art of living, and the best examples of the higher classes of Europe, notably that of England, into which the beauties of rural and suburban scenery so largely enter, will be more and more generally copied. The spirit of the whole thesis is admirable. It merits, and no doubt will be given, a wide reading.

Doctor Lyons: Doctors are not to blame for incorrect ideas in sexual matters but their responsibility is in correcting wrong ideas. Many are not awake to the ideas. Civilization is artificial, and so in more danger of being wrecked. My idea was to get individuals alive to the responsibilities of apprehending their duties. The heads of the family are alone responsible for their own families.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, OCTOBER 13, 1898.

The President, ROBERT H. HONNER, M. D., in the Chair.
Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Kenneth Gunsolus read a paper entitled "Cranial Abscess." (See page 228).

Doctor Maire: This is a very important matter in surgery, especially aural surgery. I believe the aural surgeon will have to include brain surgery in his special field. I have seen a number of cases and have made up my mind that in middle ear troubles, when certain symptoms appear, pus will be formed in the brain. These symptoms are subnormal temperature, stiffening of the muscles of the neck and dizziness when standing. Every patient with a discharge from the middle ear is liable to have brain disease.

Doctor J. H. Sanderson: One of the first things that follow after the stoppage of a discharge from the middle ear is cranial abscess. The laiety do not like to see these discharges stopped and physicians often encourage them in that belief. When there is some discharge in chronic ear disease the hearing is always better. I saw, several years ago, a number of cases of cranial abscess following attacks of lagrippe.

Doctor O'Donnell: One great cause of ear trouble, especially in children, is the habit that parents have of cleaning out the ears with tooth picks, hair pins, matches, et cetra. I believe nothing should be used but a piece of soft cloth and that used carefully.

Doctor Kestell: If physicians gave more attention to throat affections there would be, in my humble opinion, fewer cases of cranial abscess due to middle ear disease.

STATED MEETING, FEBRUARY 16, 1899.

The President, ROBERT H. HONNER, M. D., in the Chair.

Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor G. G. Gordon read a paper entitled "The Treatment of Puerperal Eclampsia with Veratrum Viride." (See page 230.)

Doctor Gunsolus: I have never used veratrum viride alone but in conjunction with other remedies. I have used enemata of bromide and chloral. I believe one of the first indications is to empty the uterus as soon as possible, that is, if the case is at or near full term. Drugs are of no avail in many cases.

Doctor Manton: The subject is one of exceeding interest. Fortunately these cases do not occur frequently. I have had but one case in private practice but have seen a number in hospital and consulting practice. I think we should be careful in distinguishing between the hysterical and true eclampsic cases. Undoubtedly a great many cases are put down as true eclampsia when they are nothing more than hysteria. I have never seen any trouble following the hysterical ones. The pathology of eclampsia is obscure; there have been many theories advanced. There is no pathological fact showing the exact cause of the affection. In a large proportion of cases we find albumin in the urine and say we have renal insufficiency, and let it go at that. In some cases there is no renal trouble. I think it is due to some nervous condition set up by the growing child in utero, some poisonous condition of the blood contracting the arterioles of the brain. I have used veratrum viride three or four times and the cases recovered, whether due to the drug I cannot say as other remedies were used. Elaterium or croton oil is good. The patient should be sweated and pilocarpine has been used in a few cases. There is one thing about veratrum viride: it depresses reflex tendencies. If the pulse is kept down to fifty or sixty convulsions will seldom occur. Veratrum viride relaxes the tissues and in beginning labor hastens the result. Chloroform or ether is good for immediate use. I prefer the former. Rectal injections of potassium bromide, thirty, and chloral thirty to forty grains may be employed. Cases of confinement should have proper preparatory treatment. I do not think I would bleed a case.

Doctor Riker: When I embarked in practice I was engaged to attend a case of confinement. At the sixth month I examined the urine and found albumin. I afterwards examined it frequently and found albumin and also casts. The woman was confined and in three hours had a convulsion. I gave sulphate of morphine and then chloroform, and if the latter was continued the convulsion was controlled. An old physician was called in as counsel and he advised bleeding which was done and the convulsions were immediately controlled.

Doctor George Campbell: Personally I know very little about veratrum viride. In puerperal eclampsia I do not think it advisable to rely upon one remedy. I think the treatment should be eliminative in character. I have had three eclampsia cases and for diaphoretic action use pilocarpine with good results.

Doctor Hislop: I have never used veratrum viride. In the few cases I have seen I have used chloroform and delivered as soon as possible. I prefer chloral by enema and pulverized jalap compound for cathartic purposes.

Doctor Mulheron: I have seen eight cases. In one veratrum viride had been given by the attending physician without good results. I bled in this case and it made a good recovery. In three others wherein venesection was performed recovery took place. In the other four cases venesection was not resorted to and three cases died. Whether the recovery after bleeding was a coincident or not I cannot say. When the patient is anemic I would not care to bleed but in some cases one instinctively draws the lancet. I do not believe in the indiscriminate use of veratrum viride in eclampsia.

Doctor Hislop: I would like to ask Doctor Mulheron if he thinks the administration of chloroform after veratrum viride is safe?

Doctor Mulheron: Yes; I have never seen any bad results.

Doctor Hoyt: My attention was first called to this drug in my early practice by a physician who used to give it in teaspoonful doses and with good results. I believe we see fewer of these cases in the lower walks of life. In some cases a physician is justified in producing premature labor especially after the eighth month. All the fatal cases I have seen were postpartum

Doctor Polozker: I do not think it advisable to rely entirely on veratrum viride. It is impossible to give preparatory treatment in all cases as we are often called in at the last minute to attend a case of confinement.

Doctor Jenks: I have seen a large number of cases and the majority of them have recovered. I have used all methods of treatment and seen recoveries with each. Owing to the lack of accurate knowledge of the etiology of eclampsia it is not wise for the profession to settle down to the belief that veratrum viride is a specific in eclampsia. Cases of the apoplectic variety should be bled. No matter what the case is, excepting hysteria, labor should be induced. Opinions of any remedy should not be based on its action in a few cases.

STATED MEETING, APRIL 6, 1899.

The President, ROBERT H. HONNER, M. D., in the Chair.
Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Walter J. Cree read a paper entitled "What Shall We Prescribe?" (See page 219.)

Doctor J. A. Weitz: I consider this paper of great interest to all. We as physicians have allowed the mechanical or operative part of medicine to consume too much of our time. There are a large number of physicians who have lost confidence in medicines, because there is too much haphazard prescribing. There is not enough study of the medicine prescribed. There is an exact science in medicine but it is not developed as much as the mechanical branch because the experimentation is more difficult. For example, medical students are ever ready to perform operations on animals but not so anxious to experiment the action of a drug on animals. A routine manner of prescribing is the fault of many physicians. We should carefully study our cases and the drug adapted to their cure and we would get better results. There is possibility of getting better results than we ever dreamed of when there is a proper study made of materia medica. We should discard all drugs or ready-made preparations, whether they are advertised or not, if their constituents are not, known.

Doctor Aaron: I agree with most of the paper. I cannot see how a physician can prescribe a secret medicine. I believe in the so-called elegant preparations as we should endeavor to administer our remedies in as pleasant a way as possible. I think, as the writer of the paper stated, that prescriptions should not be repeated. It is almost impossible to prevent it. On my blanks I state that the prescription is not to be repeated, yet my patients can go to the druggist and have them refilled, the druggist apparently ignoring the fact that I do not wish this done. I think the metric system should be used.

Doctor Patton: The paper has been an interesting one and covers a wide field. I am not in favor of prescribing ready-made preparations whether put up by a reliable manufacturing concern or not. The doctor should make his own combinations and have them put up by a competent pharmacist. The more a man knows about a drug and its application to disease the more respect he has for that drug. It is surprising to see the number of prescriptions, written by reliable physicians, containing these secret medicines.

Doctor Burdeno: I do occasionally prescribe the so-called secret remedies. I recall a very persistent case of headache that failed to yield to the usual treatments and patient had consulted a number of specialists. The very severe attacks were cured by the administration of one of these preparations, and as far as that case is concerned I swear by the medicine. There are some of the proprietary articles that are certainly very useful but I do not believe in the indiscriminate use of these preparations.

Doctor Mulheron: The paper is interesting from a practical point of view. In a general way the argument against proprietary articles is good, yet if carried to its conclusion we would have to banish many worthy articles from the physician's armamentarium. I do not approve of preparations when the formula is kept secret. We must take advantage of the advanced facilities for putting up drugs in a palatable shape. At one time a physician could practice without the aid of the pharmacist as he could gather the herbs and make his own decoctions, but now the great bulk of the drug is cast aside as useless and only the active principles used. The pirate houses that have received the endorsement of the profession cannot be too roundly condemned. A physician has no right, with justice to his profession, to prescribe secret preparations.

Doctor Thompson: I have sometimes thought that the very large number of drugs might be one reason why there was not more advancement in medicine. The multiplicity of drugs serve to divert our thoughts. I believe we should thoroughly study the action of each drug we use.

Doctor Maire: I have always had great respect for the materia medica and think every physician should be a student in that branch. I do not believe in repeating prescriptions but it is almost impossible to prevent it.

EDITORIAL ARTICLES.

THE KALAMAZOO MEETING.

The thirty-fourth annual session of the Michigan State Medical Society was held at Kalamazoo, May 4 and 5, 1899. The membership attendance as evidenced by the register exceeded the average for the past seven years. Numerous visitors were also observed but the ladies' auxiliary was scantily represented.

There were contributed to each of the sections several meritorious papers, such as were worthy of a larger audience. The genuine interest they invoked was shown by the continuance of the program in the Medical and Surgical sections throughout the second day. Some of them deserve a wider circulation than the membership alone will give and will be published in this and succeeding numbers of The Physician and Surgeon. The section on Obstetrics and Gynecology completed its work by the end of the first day. Thereafter its members found the other sections entirely congenial. The inability of the officers to secure a more extended program for the third section is significant with reference to its ultimate disposition. The result which a few members anticipated and unsuccessfully attempted to hasten at the Mount Clemens meeting has been brought about by more gradual and perhaps natural but none the less efficient means.

The social aspect of the meeting deserves comment. The cordiality of the local profession, and especially of the members of the Kalamazoo Academy of Medicine, was manifest twelve months ago. Their beautiful and artistic program helped to create a favorable impression. The informal reception of visiting members on Wednesday evening was as gratefully received as it was also unexpected. The banquet on Thursday evening was an occasion of a rather unusual display of wit and good cheer. The memory of such events is like perpetual spring. The general success and profit of the meeting were rather beyond the average and in great measure due to the zeal and oversight of the retiring officers. The General Secretary and Treasurer were re-elected and the other officers deserved as much, but in deference to former observances the following new officers were loaded with the responsibility of the next meeting: President, A. W. Alvord, Battle Creek; first vicepresident, P. D. Patterson, Charlotte; second vicepresident, B. D. Harison, Sault Sainte Marie; third vicepresident, H. W. Longyear, Detroit; fourth vicepresident, J. B. Bradley, Eaton Rapids. The next meeting will be held at Mackinac Island about June 20, 1900.

ANNOTATIONS.

HEALTH AND PLEASURE RESORTS IN MICHIGAN.

Accustomed as we are by nature to depreciate that which is near and familiar, a reference to our own Michigan as a summer and health resort state immediately arrests our attention and we stop to question whether it be made in jest or earnest. While many of us have seen and been enchanted by the beauty of distant scenes and other climes and countless others, stayers-at-home, have felt themselves unfortunate, there have been discovered in our midst and around us many attractive and interesting spots, tempting alike to health and pleasure seekers. Michigan has not beggarly sought for acknowledgment as a resort state. With an area of less than fifty-eight thousand square miles it has a coast line greater than that of any other state in the Union, being one thousand six hundred and twenty miles and on a series of five lakes whose total area is over eighty-seven thousand square miles, and which comprise about one-half of the fresh water on the globe. Within the borders also of her two peninsulas are five thousand one hundred and seventy-three inland lakes, having a total acreage of seven hundred and twelve thousand eight hundred and sixty-four. Along this expanse of shore line are to be found an almost endless variety of scene and opportunities for sport and rest. Acting by authority and request of the Legislature of 1897, the Michigan State Board of Health has caused to be prepared and distributed a "Directory of The Summer Health Resorts of Michigan." These are recounted not by the score even for they number more than an hundred and comprise as attractive spots as may be found in the world. This artistically prepared publication—a beautiful souvenir—consists of many illustrated views and much descriptive matter which, being official and therefore reliable, offers such information as the tourist and health seeker may desire. A copy of it may be had for the asking by sending six cents for postage to the State Board of Health, Lansing, Michigan.

A POINT IN ETHICS.

THERE is a promise of better things in the life of that individual who is aware of his wrong conduct and realizes its results. There is likewise encouragement in the public consciousness of evil tendencies and disapprobation of unwise counsel. So also in our professional lives a warning of some contravention of right practice indicates a living ethical principle. It more usually falls within the editor's province to send forth now and then notes of caution and sometimes invective as his personality is lost or absorbed in the medium through which he expresses himself. With others the fragility of their glass houses makes comparisons and criticisms dangerous and disastrous. Notwithstanding this fact we are able and pleased to present in the current issue of this journal a protest against the prescription in any case of patent remedies and the otherwise indiscriminate use of proprietary drugs or combination of them, the true character of which is concealed from the profession. This protestation comes from the profession but not from the press and is therefore more impressive. We are all finite and no one is without fault, but the Infinite is our guiding star and perfection our aim.

A SHORT VISIT TO ANN ARBOR, AND ITS IMPRESSIONS.

IN response to a friendly invitation the Wayne County Medical Society made an excursion by trolley to Ann Arbor May 18, 1899, as guests of the Washtenaw County Medical Society. Dinner was served at the Cook House, after which the party in smaller groups visited the several laboratories of the University of Michigan, the Museum, Gymnasium and other buildings. Later in the afternoon the visitors repaired to the Hospital and attended the students' clinics. Interesting cases were brought in and described, but unluckily for the guests the operating surgeons had taken a day off. Like other state institutions the Hospital evidenced a lack of room for the amount of work it attempts to carry on. There is no question of the superior professional work done, nor of the excellence of the instruction given. There is no doubt but that the state can afford as many advantages and secure as efficient faculties as may be found under other conditions; but there is a reasonable doubt as to the propriety of the State at large affording and furnishing training of a technical character to one or a few classes of the people at the expense of the whole. The maintenance of good government and the welfare of the people are undoubtedly promoted by that which encourages the sciences, literature and art, but there is a limit to free education as of governmental restrictions, beyond which the state cannot go without burdening the many for the sake of the few. When we observe the socialistic attitude of our own state in this matter, and then compare her primitive medical laws with those of such states as Washington and Montana, we are loth to believe it is the same commonwealth. But such reflections were at that point arrested when DOCTOR and MRS. WESSINGER extended their hands of welcome and the hospitality of their home. A couple of hours were pleasantly spent in making and renewing acquaintanceships, after which a merry crowd with memory dear resumed their homeward way.

COLLEGE COMMENCEMENTS.

THE season for college commencements has opened. The dingy rooms with their hard benches and the midnight oil are giving way for a day to flowery scenes and brilliant banquet tables. The pale and anxious look has changed to one of elation and exuberant joy. Pride and ambition may be seen in every feature. Such gala days have been recurring for centuries and yet even this time their pleasures bring back the same intensities of feelings. Meanwhile the times are changing. Christian science, osteopathy and the vulturous pretenders in female irregularities and delicate and private diseases still thrive, apparently, and hold up their heads and vie for existence with Truth and Right. Professional medicine also lives and her seemly conduct commands the admiration of the greater world. Medical colleges are multiplying and, albeit the classes may be smaller, their students are not diamonds alone but polished ones. Error may continue to exist but its poor shriveled form only makes Truth more lovely. It is an encouraging sign when, of a class of twenty-one graduates from the Cleveland College of Physicians and Surgeons, sixteen were graduates of homeopathic schools. There are many colleges but only one great school of medicine and all progressive men remain in it through life. The Detroit College of Medicine held commencement exercises at the auditorium, Thursday, May 11, 1899, and conferred degrees upon the following gentlemen: G. W. Beeman, W. F. Bernart, L. F. Bleazby, H. D. Brown, J. V. Dooling, F. P. Drew, O. J. East, M. A. Fechheimer, J. C. Ferguson, C. A. Fettig, W. D. Ford, W. S. Gass, F. N. Hayes, A. B. Henderson, I. L. Hill, L. J. Hirschman, F. S. Holladay, J. T. Hubel, W. B. James, C. A. Kent, M. Kerr, G. E. Lamb, S. C. Lumley, F. J. A. McDonell, G. H. McFall, J. S. McGlaughlin, Junior, J. F. McKitrick, H. N. A. McLean, H. B. Macmillan, W. J. McNeil, J. E. Mead, E. D. Merritt, E. J. Miller, E. P. Mills, E. W. Mooney, S. C. Moore, D. S. Skinner, T. F. Spillane, P. J. Tischart, C. G. Towar, A. B. Walker, F. A. Watts, L. G. Wedgwood, A. J. Weitenberner, E. J. Weitenberner, H. H. Wiley.

CONTEMPORARY.

EARLY MARRIAGES AS A CURE FOR SOCIAL EVILS.

[THE INTERNATIONAL MEDICAL MAGAZINE.]

MUCH discussion has been devoted lately to the subject of various proposed methods for the governmental regulation of marriage, and other attempts to reform society by law. * * * The advocates of attempts to make all men moral, upright and healthful in body and mind by legislative enactments seem to be wholly unaware of the limitations in this direction. Some of the most efficient causes of the degenerative tendencies which are apparent in modern civilized society are to be found deeply rooted in the customs and prejudices which have been growing for centuries. * * * Deferred marriages conduce to masturbation and other forms of unnatural sexual gratification, and are the chief causes of prostitution. The resultant diseases are sapping the vigor of our most highly civilized races.

The remedy is not to be found in still further restricting marriage by vexatious governmental regulations, no matter how beneficent the intent, since this would increase the vicious alternatives above mentioned, and thus aggravate the disease. Let our would-be reformers organize everywhere societies for the promotion of early marriages, and strive through such agencies to beget a healthier sentiment concerning the relations of the sexes toward each other. Let them by this and other practical means try to abolish the maudlin sentimentality that makes of woman a kind of semigoddess, too ethereal and delicate to be permitted to bear her share of the burdens of life, and, by thus enthroning her, disqualifies her for wedding any man not endowed already with a generous income.

Physiology shows the sexes, in mankind as among the animals, under normal conditions, to be about equally endowed with muscles, nerves and physical endurance. There is no physiologic reason, therefore, why the man and the woman should not bear almost equally the burdens of maintaining the home. Even child-bearing and suckling their young do not interfere much with the activities of the females of the savage races or of the animals; and there is no sound reason under the heavens why our women of the middle and higher classes should be so dwarfed and enervated by dress, lack of exercise, confinement in close rooms, perverted mental and moral training and otherwise, as to consider themselves, and, in most cases, actually to be, frail, dependent creatures, unfit to do the work of a modern home with a minimum of outlay for servant hire, while the poor husbands are struggling to build up a business and get established in life.

It is not among the poorer classes that the most immorality is found and the explanation is that with them the men find real helpmates and marry young. Let the social reformers ponder over this phase of the marriage question. If the daughters of the land, high and low, even the most refined and cultivated among them, were taught to be strong, healthful and useful women, ready to marry the men of their choice, regardless of riches, and to help their husbands, as their mothers in many instances did before them, one of the vexed social problems would rapidly be solved.

WOMAN, LADY, AND FEMALE.

[THE MEDICAL REVIEW.]

AT a recent medical society meeting we were much impressed with the different status of the patients of some of the members. Thus one reporter stated that he had removed a very large suppurating and exceedingly offensive fibroid tumor from a lady. Another spoke of a lady who had been delivered of a horrible-looking monster, in which there was practically no head and only one eye. A third stated that, after a lengthy and somewhat anxious gestation, a female had been delivered of a remarkably healthy female child. We cannot understand why the distinction was made in these cases; and if the term lady was to be applied to one of these patients, it certainly ought not to have been accorded the woman who had the fibroid or the one who brought forth the monster, but rather to the one who was delivered of the healthy, well-formed and vigorous child.

Another contributor to the same meeting was down for a paper upon certain aberrations in the female pelvic organs. We concluded at once that the paper was to be one upon comparative embryology, but were somewhat surprised to learn that all the material which he had gathered related to abnormal structures in adult women. We certainly think that some confusion is creeping into our use of these terms, and it is unfair to the male sex not to apply the term gentlemen to them if we use the term lady to designate our women patients. The andrologist should in the future be described as one who devotes his attention to diseases of gentlemen, and we must speak of having removed the prostate of a gentleman, if anything like equity is to be accomplished in our use of polite terms.

We should like very much to see the term "woman" used to designate the adult female of the human species, while the word "female" should be largely restricted to embryological writings and to those which describe the lower animals. To our mind, the expression in a medical paper that a *woman* had been delivered of a *boy* or *girl* leaves nothing to be desired in the way of elegance of diction or certainty of expression.

MEDICAL NEWS.

THE AMERICAN MEDICAL ASSOCIATION.

The fiftieth annual meeting of this organization will be held in Columbus, Ohio, June 6–9, 1899, under the presidency of Doctor Joseph M. Mathews, of Louisville, Kentucky. Indications predict a very successful meeting. The number of papers promised in the various sections is large, the geographical situation of Columbus is central, and the transportation rate is exceptionally low for a vast extent of territory within which Michigan is included at one fare for the round trip. The Hocking Valley Railway offers the most direct route from Toledo to Columbus. Michigan physicians have several lines from which to elect transportation to Toledo.

A GYNECOLOGIC AND OBSTETRIC CONGRESS.

The Third International Congress for Gynecology and Obstetrics will take place at Amsterdam from the 8th to the 12th of August, 1899, under the patronage of the minister of the interior. The leading questions for discussion will be the following: (1) The surgical treatment of fibromyoma. (2) The relative value of antisepsis and improved technique for the actual results in gynecologic surgery. (3) The influence of posture on the form and dimensions of the pelvis. (4) The indication for Caesarean section compared to that for symphyseotomy, craniotomy and premature induction of labor. The committee have succeeded in obtaining the valuable concurrence as reporters of MM. Doyen, Howard Kelly and Schauta who will treat the first question; MM. Bumm, Richelot and Lawson Tait the second; MM. Bonnaire, Pinzani and Walcher the third; and MM. Leopold, Pinard, Pestalozza and Fancourt Barnes the fourth. It has been decided to send the reports with their translations in the official languages to all the members a month before the opening of the congress. As regards private communications, preference will be given to those bearing upon the above mentioned leading questions. Time will also be allowed sufficient for any demonstrations kindly afforded by the members.

The official languages are English, French, German and Italian. It is urged that specialists in these departments honor the congress with their presence, and, by communicating their experience, insure scientific results as satisfactory as those obtained by the previous congresses of Brussels and Geneva.

THE BATTLE WITH THE BACILLUS.

Professor Vincenzo Cervello, professor of materia medica and pharmacology in the Royal University at Palermo has, according to Italian newspapers, discovered a radical cure for tuberculosis. This time the remedy consists of formalin hypodermically administered. Doctor Ambroise T. Holly, of Port-au-Prince, Haiti, has recently proclaimed another method of attacking the bacillus tuberculosis. It is designated the "antiseptico-anesthetic treatment," and consists of regularly inhaling an anesthetic holding in solution volatile or liquid antiseptics. Chloroform is elected to produce the anesthesia in children and during the first stage of the disease, while ether is administered to effect this condition in adults and during the third stage. Terbene, carbolic acid, creosote, iodoform, et cetera, are the antiseptics employed, and care is required to avoid giving a toxic dose. Mild anesthesia may be produced for a varying length of time once daily if well borne by the patient. The claim is made that the narcotic, besides serving the purpose of a menstruum wherein the antiseptic is dissolved, and a medium whereby the medicament is carried to the remotest area of lung tissue unaffected by atelectasis, actually disintegrates cheesey necrosis, thereby enabling the antiseptic to reach the enemy at the front and fiercely wage the assault until every vestige of the antagonizing force in the breastworks has succumbed.

A CHANGE IN SANITARIUM MANAGEMENT.

Doctor Elmore S. Pettyjohn, for the past six years medical director of "The Alma," has leased that institution on his own responsibility and assumed control May 1. The doctor received his medical degree at Rush Medical College, graduating in 1882, and after spending a decade in institutional and private practice, was called in 1893 to take charge of "The Alma," which has since developed into a sanitarium representing an investment of $300,000, and is thoroughly equipped for the treatment of medical and surgical cases. The popularity achieved by "The Alma" among the profession in recent years is attributable to the high ethical plane upon which it has been conducted by the guidance of Doctor Pettyjohn, and under the absolute management of this experienced physician, reinforced by a staff of eminent medical consultants, the sanitarium should henceforth attain still greater celebrity as a health resort.

THE UPPER PENINSULA HOSPITAL.

The "Biennial Report of the Upper Peninsula Hospital for the Insane," at Newberry, contains much valuable information for physicians interested in the care of the insane. Results are given of the treatment of a series of cases of melancholia by thyroid extracts, together with the blood counts by centrifugalization and the Thoma-Leitz methods. The percentage of hemoglobin was estimated by Fleischl's methods. The document also contains results of the utilization of the different forms of electricity in certain kinds of mental alienation. Under the head of medical and surgical diseases is recounted the different forms of maladies often found affecting the insane when they have been properly examined. Special mention is made of pelvic disease among female patients being very frequently present. In sixty per cent of recent acute cases that were examined some abnormal condition was found in some of the organs of reproduction. Hydrotherapy and massage in various forms were frequently employed with beneficial results. Examination of the eyes, and of the teeth, was a part of the treatment pursued with very beneficial results. A few very interesting pathological reports were given, showing the changes which take place in some mental diseases. A training school for attendants and nurses is being conducted by the medical staff. The syllabus shows a very instructive course. Much other valuable information is contained in the pamphlet relative to the reception and transportation of the insane by public officials.

MINOR INTELLIGENCE.

THE Beaumont and Marion Sims Medical Colleges in Saint Louis have been consolidated.

DOCTOR NICHOLAS SENN has received the honorary degree of LL.D. from the trustees of Jefferson Medical College.

DOCTOR LILLIAN TOWSLEE, of Cleveland, Ohio, lately received a severe shock and serious injuries by being thrown from her carriage.

DOCTOR D. LEWELLYN BEAVER, a graduate from the Pennsylvania Medical College in 1841, recently died at Reading, Pennsylvania, at the advanced age of eighty-four years.

DOCTOR DONALD MACLEAN has announced his resignation from the medical department of the United States army and his resumption of professional work in Detroit as consulting and operating surgeon.

THE "Condemnation of the Corset" was the subject of a thesis written by Mademoiselle Thilikeza, a young woman of Polish origin, who recently passed a brilliant examination before the Paris faculty of medicine.

A MARYLAND horse dealer who recently sojourned at Johns Hopkins Hospital as a patient, was so delighted with the attention received from physician and nurse that he bequeathed his body to the authorities of that instution for scientific purposes.

THE Scottish Association for the Medical Education of Women recently met in Edinburgh. The annual report of the secretary disclosed the information that one hundred and one students were registered, an increase of seventeen over the provious year.

INDISCRIMINATE kissing and public spitting lately received the anathema of the Florida Medical Association. In a memorial to the legislature of that state requesting legal enactment to restrict the rapid spread of tuberculosis, these unhygienic practices were branded as causative factors.

THE American Association of Proctologists is the intended title of an organization which will be devoted to the study of diseases of the rectum, and founded at Columbus during the meeting of the American Medical Association.

IN Belgium insane persons are treated at the homes of citizens in quiet villages, twenty-seven cents per day being allowed for the care, food and clothing of each patient. The harmlessly insane are the only class eligible to this system of treatment, which contemplates a medical director for every colony.

THE law heretofore in vogue in New York, which compelled physicians to give testimony relative to the physical condition of persons holding life insurance policies, has been amended to prohibit the disclosure of professionally acquired information concerning the mental or physical ailments of patients, regardless of whether the latter are dead or alive.

THE Ohio State Medical Society recently held its annual meeting at Springfield, and it is described as having been a "pronounced success." The attendance was large, the papers good, and the discussions spirited. Doctor Rufus B. Hall, of Cincinnati, was elected president; Doctor J. A. Thompson, of Cincinnati, secretary; and Doctor J. A. Duncan, of Toledo, treasurer. The next meeting will occur in Columbus.

QUININE has been extensively prescribed in the United States during the past year, sufficient having been consumed to allow each man, woman and child twenty grains. Official figures impart the information that 1,539,056,750 grains of the drug have been imported within this period, and the statement is made that about 125,000,000 grains were administered to American soldiers while suffering from various types of fevers.

THE Ann Arbor Medical Club is the name of an organization recently established by local regular physicians and vested with the twofold object of promoting medical advancement and social amenities. The officers are: President, Doctor W. A. Spitzley; vice-president, Doctor W. F. Breakey; secretary, Doctor T. S. Burr. The initial paper, which was read by Doctor J. A. Wessinger, will be published in an early issue of The Physician and Surgeon.

PARIS has a new medical organization which bears the distinguishing name La Société d'Obstétrique, de Gynécologie et de Pédiatrie. Its roll comprises active and honorary members, and the following officers will have *charge d'affaires* during the experimental stage of its existence: President, Professor Pinard; vicepresident, M. Terrier; general secretary, M. Varnier; annual secretaries, MM. Baudron and Legueu; archivist, M. Potocki.; treasurer, M. Champetier de Ribes.

THE annual commencement of the University of Michigan will take place on June 22. Besides the usual antecommencement ceremonies, the medical department will have a special program for its friends and the alumni, an unusual number of whom have signified their intention of being on hand. All the laboratories will be open on the 19th, 20th and 21st. Demonstrations will be made on special subjects in anatomy, histology, pathological anatomy, pharmacology, bacteriology and medical electricity, and clinics will be given in each clinical branch. These exercises will not interfere with those of the general program, or with each other.

MEDICAL stock companies will suffer a quietus in England if a certain bill now pending in the House of Parliament is passed. The measure declares that it is "unlawful for a company to carry on the profession or business of a physician, surgeon, dentist, or midwife," and supplements this declaration with a clause providing that "if any company contravenes this enactment it shall be liable on summary conviction to a fine not exceeding five dollars for every day during which the contravention happens."

PROFESSOR FREDERICK KARL CHRISTIAN LUDWIG BUECHNER died at Darmstadt, May 1, in which city he first saw the light March 29, 1824. He received the degree of Doctor of Medicine at Giessen in 1848, and continued his studies at the Universities of Würzburg and Vienna. His professional career was inaugurated at Darmstadt, but he soon relinquished practice to become a privatdocent in Tubingen. The authorities removed him from this position because of materialistic views expressed in "Force and Matter," a work issued under his authorship, and he then resumed private practice in his native city.

THE Chicago Board of Health announces the increasing duration of life in that city. The April *Bulletin* issued by this body states that—"Measured by the average age at death of all who died in the city of Chicago thirty years ago and of those who died last year, the average duration of life in this city has more than doubled during a single generation. That is to say: In 1869 there were 6,488 deaths recorded, with the age of each decedent given. The aggregate of the ages footed up 90,336 years, or an average of 13.9 years for every individual decedent, old and young. Last year there were 22,897 deaths similarly recorded, with an aggregate of 672,540 years of life, or an average age for each decedent of 29.4 years. This is an increase af 111.5 per cent."

THE Mississippi Valley Medical Press Club is. It has been founded to advance medical progress, promote good fellowship, and boom the proposed World's Fair at Saint Louis in 1903. Following are the names of the charter members and the journals they represent: Doctor C. H. Hughes, *Alienist and Neurologist;* Doctor C. H. Powell, *North American Journal of Diagnosis and Practice;* Doctor John Punton, *Kansas City Medical Index;* Doctor S. C. Martin, Jr., *Medical Era;* Doctor H. M. Whelpley, *Meyer Brothers' Druggist;* Doctor Frank P. Norbury and Doctor T. A. Hopkins, *Medical Fortnightly;* Doctor Heber Robarts, *American X-Ray Journal;* Doctor I. N. Love, *Medical Mirror;* Doctor O. F. Ball, *TriState Medical Journal;* Doctor C. W. Lillie, *Saint Louis Clinique;* Charles Wood Fassett, *Medical Herald;* Doctor L. T. Riesmeyer, *Medical Review.*

THE memory of Doctor Joseph O'Dwyer, of intubation fame, is to be perpetuated in a befitting manner. A movement has been inaugurated to raise a fund of $30,000, the interest of which shall support two O'Dwyer Fellowships in Pediatrics, open to competition by physicians who graduate in the United States, and to be held by the successful competitors for a period of two years. During this time they must furnish satisfactory proof of their engagement in original research work to a committee of five, one of whom shall be appointed by the President of Harvard University, one by the Dean of the Johns Hopkins Medical School, one by the Provost of the University of Pennsylvania, one by the President of the University of Chicago, and one by the President of the New York Academy of Medicine. The arrangement of details will be announced later.

The meeting of the Mississippi Valley Medical Association has been postponed from September 12–15 to October 3–6 inclusive. In consequence of other attractions presenting in Chicago about that time, the railroad fare from all points will be a straight one fare for the round trip, without the necessity for certificates or signatures. The autumn fete, to be known as the American festival, will begin September 25 and close with the laying of the corner stone of the Federal building, October 9, on which occasion the President and the Cabinet will be in the city.

RECENT PUBLICATIONS.

REVIEWS.

PROGRESSIVE MEDICINE.*

How to keep fully abreast of the real advances in medical and surgical science is today a problem difficultly solved, but one which to progressive men is of practical importance. So numerous are the workers in every part of the field and so abundant is the harvest that its garnering for future use and usefulness is not an easy task. Most desirable are the means by which the collation of this material may be made in servicable form. In "Progressive Medicine" this desideratum is admirably supplied. At a moderate cost the essentials of a year's literature may be had in a condensed and attractive form. In Volume I the marks of real progress made under the following captions are well indicated by specialists in their branches: The Surgery of the Head, Neck and Chest; The Diseases of Children; Pathology; Infectious Diseases, including Croupous Pneumonia; Laryngology and Rhinology; Otology. The value of this work arises from a judicious selection of original matter—the sifting of the useful from the useless, and its interest lies in the narrative style of each author. We know of no work better calculated than this to fulfill its purpose and none of this character which we believe will be more truly appreciated.

*Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, and containing 490 pages, twenty-eight illustrations and three colored plates. Lea Brothers & Company, Philadelphia and New York.

A QUIZ MANUAL OF HISTOLOGY.*

The value of quiz compends cannot be denied. This manual, aside from its being almost the only one of its kind bearing upon Histology, and especially Dental Histology, is particularly well adapted for students' purposes on account of the direct method of questioning and answering. This plan brings out the chief points and aids in giving definite knowledge.

*By Charles B. Reed, M. D., Professor of General Histology in the Northwestern University Dental School; Assistant Obstetrician in the Chicago Lying-in Hospital; Demonstrator of Obstetrics in the Chicago Medical College, et cetera, and Frederick B. Noyes, B. A., D. D. S., Professor of Dental Histology in the Northwestern University Dental School. Second edition. Chicago: Chicago Medical Book Company.

NERVOUS AND MENTAL DISEASES.*

THIS volume needs only an introduction to the general profession to receive a cordial welcome. It is a superior work and bears the imprints of masters' hands. It is broad in its scope, and yet every part and point has been worked over with the same especial care. It is profusely illustrated, its general make-up is good, and every page is inviting.

*By Archibald Church, M. D., Professor of Clinical Neurology and of Mental Diseases and Medical Jurisprudence in the Northwestern University Medical School (The Chicago Medical College), Chicago; Professor of Neurology in the Chicago Polyclinic; Neurologist to Saint Luke's Hospital, Chicago; Consulting Neurologist to the Home for Destitute Crippled Children, Chicago, et cetera, and Frederick Peterson, M. D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York; Chief of the Clinic in the Nervous Department of the College of Physicians and Surgeons, New York. Price, cloth, $5.00 net. Philadelphia: W. B. Saunders.

DIABETES MELLITUS AND ITS TREATMENT.*

WE are still without exact knowledge of the pathological anatomy of diabetes mellitus and, until this want is supplied, any treatise possible will fail to be entirely satisfactory. The author of this work evinces, however, a rare degree of knowledge and personal experience bearing upon this disease and has brought together a wealth of information not commonly found in text-books. Much of a practical nature concerning the etiology and treatment of the milder cases especially, is presented in a manner that will be truly helpful. The study and consultation of such a work will render the management of these cases more satisfactory to both physician and patient.

*By R. T. Williamson, M. D. (London), M. R. C. P., Medical Registrar of the Manchester Royal Infirmary; Honorary Medical Officer of the Pendleton Dispensary (Salford Royal Hospital); Assistant to the Professor of Medicine in Owens College, Manchester. With eighteen illustrations (two colored). Price $4.50. New York: The Macmillan Company.

MATERIA MEDICA AND THERAPEUTICS.*

THE series of manuals to which this volume belongs are admirable adjuncts to study. The subject matter of which they severally treat is viewed in its entirety and also studied in the relations one part bears to another. This seems to us the ideal method for students to pursue. This particular work is happily arranged and constructed after this plan. It has many good points which will continue to commend it especially to teachers.

*By W. Hale White, M. D., F. R. C. P., Physician to, and Lecturer on Pharmacology and Therapeutics at Guy's Hospital, London; Examiner in Materia Medica to the University of London, and late Examiner in Materia Medica to the Conjoint Board of England; Author of a Text-Book of General Therapeutics. Edited by Reynold W. Wilcox, M. A., M. D., LL.D., Professor of Medicine and Therapeutics at the New York Post-Graduate Medical School and Attending Physician to the Post-Graduate Hospital; Visiting Physician to Saint Mark's Hospital; Fellow of the American, and of the New York Academy of Medicine, et cetera. Fourth American edition, thoroughly revised. Price $3.00. Philadelphia: P. Blakiston's Son & Company.

The Physician and Surgeon

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

THE VALUE OF COMPLETE DIAGNOSIS.*

By FRITZ MAASS, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively]

The basis for successful treatment is correct diagnosis. Acknowledging this, we do not mean to say that a cure is impossible under a wrong diagnosis, or without any diagnosis at all. Nature may be able to overcome our mistakes and insufficiencies, but as a general rule, help can only be afforded to a patient seriously ill, when the true character of his affection is well recognized. As long as a correct diagnosis guarantees the restoration of health, there is no necessity in behalf of treatment of a deeper understanding of the case for a complete diagnosis. Tuberculosis of the knee-joint, cancer of the breast, urethral stricture, and the like, generally are easily recognized. More frequently we meet with diagnostic difficulty in affections of the abdomen and chest. Difficulty being the exception rather than the rule in correct diagnosis, increases more and more the deeper we enter into the understanding of a certain case. There arises the question of origin and limits of the correctly diagnosed disease, the question of hidden concomitant pathologic changes, the question of causal connection between the different symptoms and others. In trying to answer them we may be confronted with irremovable obstacles, may not gain any more knowledge, and may lose time in frustrated efforts. The investigation frequently is not interesting in itself, and only may consist in certain simple examinations, to be repeated again and again in case negative results are obtained. Consequently it is only too natural for one to be tempted to save time and be satisfied with a correct diagnosis. To counterpoise such a tendency to limitation of diagnostic efforts, the value of the complete diagnosis must impress itself strongly and frequently upon our mind. Considerations like these induce me to discuss the subject in question. The instances of personal experience referred to further on are rare, not new. As they may call back to the memory similar observations, lost under fresh impressions of recent days, I hope they will be welcome.

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*Orator's Address before the Section on Surgery and Ophthalmology of the Michigan State Medical Society, at the Kalamazoo meeting.

As long as a correct diagnosis guarantees the restoration of health, there is no necessity in behalf of treatment of a deeper understanding of the case for a complete diagnosis. But we meet with cases wherein correct diagnosis promises good and complete diagnosis better results. The therapeutic measures adopted for one localization of the disease may be influenced by the affection of another organ. For instance, two organs intected at the same time by the tubercle bacillus may render the correct diagnosis of one localization entirely insufficient to select the proper treatment. We all know that the removal of a tubercular joint deposit favorably influences the nutrition of the whole body, and consequently a simultaneous pulmonary affection. Quite frequently it is not necessary to pay any attention to the latter in selecting the treatment for the former. Only occasionally it is different, and the question to complete the diagnosis in regard to the lungs after the joint affection has been correctly diagnosed becomes of the greatest importance. About three years ago I saw a patient forty-five years of age with an intensely and extensively swollen tubercular knee-joint. Subluxation and deviation of tibia indicated bone destruotion, and severe pain at the slightest movement excluded any use of the leg. There was fluctuation, and a large area of the skin was shining and discolored. Perforation was threatening. The patient coughed and was greatly emaciated. For the very reason that the soft parts of the joint itself and surrounding the joint were so much infiltrated and of low vitality I did not hesitate to recommend amputation. The man being a common laborer with a large family depending upon him objected, and indeed a stiff leg would have been bad enough for him. But consider a resection under such a condition of the soft parts. If it were possible a speedy healing and consolidation could hardly be expected. A prolonged confinement with a granulating and naturally discharging wound would undoubtedly be too much drain on a man with pulmonary tuberculosis. A more complete diagnosis, involving the lungs, was of the greatest importance. The mucopurulent sputum amounted to about half a pint in twenty-four hours. A destructive process in the organ, by external examination, could not be detected. Repeated microscopical examination of sputum also remained negative. Relying upon these results I agreed to a resection if it should prove possible during operation. It was done and the expected happened, a large part of the skin becoming necrotic. About half a year elapsed before the patient could leave his bed with plaster of Paris. The closure of the last fistula and consolidation took place not earlier than one year after operation. Fortunately the cough ceased entirely soon after the operation, and the man improved generally. In case the pulmonary affection had been tubercular and been disregarded as a contraindication to resection, the operation which finally proved a blessing would have been an inexcusable mistake. On the other hand, taking the diagnosis—pulmonary tuberculosis—for granted without further investigation, and to have amputated might have bordered on a crime. Nobody can question the value of a complete diagnosis under such circumstances.

A correct but incomplete diagnosis may cause or hasten a great disaster; nevertheless, it may be difficult to see where its true value in case of completeness would have been. A lady about fifty years of age was sent to me for treatment by DOCTOR IMRIE, of Detroit, with the correct diagnosis, tubercular abscess of the groin. The patient readily gave her consent to aspiration and iodoform injection, an operation not very reliable in its curative effects but attended with hardly any danger. There was no indication of an advanced pulmonary tuberculosis or other serious complications. The person had lost flesh and was pretty lean, but had performed her duties in some office until recently. The large femoral vessels could easily be felt passing over the abscess and there was no danger that the trocar might collide with these or the peritoneum, the abscess being below Poupart's ligament. I did not think that any further investigation was necessary and performed the little operation, going in well lateral from the vessels, first downward to the bone and then turning toward in medial direction reached the abscess. For a moment characteristic tubercular pus was flowing. soon it turned red and finally pure blood spurted like that from a large artery. The trocar was withdrawn, a long incision hastily made and a good-sized artery, well lateral from the femoral, seized and tied, the abscess cleaned and dressed with gauze. The femoral and popliteal arteries were both pulsating. The disaster seemed not to be very grave. The patient had lost the chance of a rapid healing without an open wound, which at her age was not very great, but the damage done by this harmless operation soon proved to be greater. The second day signs of gangrene appeared in the foot and progressing slowly finally made amputation of the lower leg necessary. As the popliteal was always distinctly pulsating, one could hope that collateral circulation might develop, a hope which was not realized.

What was the cause of the gangrene and how could it have been prevented in case a more careful investigation had suggested the impending danger? As to the cause, I believe that the femoral artery was more or less compressed by the abscess and that somewhere below a coagulum had formed, which was thrown down beyond the knee as the full stream returned into its old course after emptying the abscess. The artery, wounded by the trocar, was either a collateral, enlarged after compression of the femoral had taken place, or a congenital variety. As the patient was a lean person it might have been possible to recognize this collateral by especially searching for it, and also to find a difference in the pulsation in the two legs below the site of the abscess and so suspect the dangerous condition. Whether this more complete diagnosis would have changed the ultimate result is not very easy to decide. The abscess left alone for fear of embolism, finally would have emptied itself, provided that life lasted long enough. Such a postponement might have brought about a complete and solid closure of the femoral and so prevented the irreparable blockading lower down. But would the collateral, mentioned above, have been capable of sufficient enlargement to substitute the femoralis entirely at a time when the collaterals lower down failed? It is at least very doubtful whether a complete diagnosis would have warranted a better treatment. Anyhow the examination of the arteries previous to the operation would have been an interesting one and even if doubtful in its results, the disaster could at least not have taken by surprise the patient as well as the surgeon. If one only receives a hint of a thrombotic process he will not pronounce this operation as harmless on general principles; such errors in prognosis we do not fear so much as mistakes in treatment. The neglect of them entirely sometimes the queries of patient and relatives safeguard against. For obvious reasons the physician must be quite sure if he gives an entirely unfavorable prognosis. Never to pronounce a case hopeless, for fear of error, is also a principle, which cannot be maintained under all circumstances. Who has not seen recovery against all expectations, and who did not ask himself whether a more careful search might not have disclosed favorable signs? Let me relate the following history:

The patient was a man about forty years of age, suffering for a long time from an impermeable stricture of the urethra. He never listened to the advice of his physician, DOCTOR JONES, of Leesville, to have it operated upon, until he became very low with this and a subchronic pulmonary affection. DOCTOR JONES took the latter for a severe bronchial catarrh, perhaps with lobular inflammation. I found the patient with the bladder full, the urine constantly oozing from the penis, the scrotum red and swollen from irritation by the fluid, bedding always wet. The urine contained pus. The man was extremely emaciated and so weak that he could not raise himself in the bed. The temperature was 104°, and there was hardly any appetite. The sputum was thick, nummular with bloody streaks and amounting to about one teacupful in twenty-four hours. It was easy to approve the diagnosis, impermeable stricture with catarrh of the bladder. Whether there was pyelitis, was doubtful at first. As the urine cleared up soon after operation this affection, most probably, was not present. In regard to the pulmonary affection there was no agreement between us. I thought it could not be anything else but tuberculosis. DOCTOR JONES denied.

We examined frequently by auscultation and percussion and also microscopically, but never found bacilli or any definite signs of destruction. On the correct diagnois, impermeable stricture, we were justified to do an external urethrotomy. The result was very satisfactory in regard to the local trouble, but generally the patient improved only slightly. The temperature was a little lower for a while and the patient gained some strength. The sputum remained unchanged and further examinations and search for bacilli, et cetera, always yielded negative results. This negative evidence, with the high fever and the patient's general condition, seemed to me not strong enough to exclude tuberculosis of the lungs. Finally the patient lost his appetite entirely and his temperature rose to 105°. Always having denied that the condition was hopeless we now admitted it to be. With a great deal of interest we looked forward to the postmortem. A few days later (about five weeks after the operation), Doctor Jones telephoned that we would not be allowed a postmortem. I was very much disappointed and asked indignantly for the cause of the refusal. The relatives always seemed very anxious to know the true character of the pulmonary affection. The explanation I got was entirely unexpected. "The patient is not going to die," was the reply; "he just waited for our unfavorable bulletin and has been improving since." So he continued, and today he is perfectly well without any pulmonary or urinary symptoms at all. How splendid a chance was lost for one of our modern supernatural healers, to show the insufficiency of medicine and surgery! How badly were we in need of a complete diagnosis!

To recognize the source of the disease as stated above is also part of a complete diagnosis. It may be of advantage to the patient in so far that he may not contract the same disease again, for instance, lead poisoning. There is another not less important point emanating from the knowledge of the source from which our patient became infected. The benefited person is the physician himself, though the discovery of the truth at first glance may look rather detrimental to him. Operating in an aseptic field, it happens even nowadays that we get an infected wound. The temptation to connive, forget and make forgotten is great. Confronted with such an unfavorable result it is good to remember that we learn most by mistakes. To prevent infection, investigations have been made for years to render the hands of the surgeon and skin of the patient aspetic. Today one method is praised as absolutely reliable, and tomorrow some one shows that it is not. Hot water, soap, brush, chemical substances in watery and alcoholic solutions, or in *statu nascendi*, have been recommended and condemned. No wonder if one gets tired reading this accumulating literature, and is satisfied with a good though not infallible method. I was pleased with watery bichloride solution for a long time, but now I use the alcoholic solution. The following experience seemed to prove the superiority, and perhaps absolute reliability of the alcoholic solution in comparison with watery solution of bicloride.

A few days after having operated for a severe staphylococcus albus osteomyelitis of the femur, I had to remove a carcinomatous mamma, and to perform a radical operation for hernia in a boy. Hot water, soap, brush and bichloride alcohol were relied upon, and primary union obtained in both cases. Having dressed in the meantime the osteomyelitis case, an operation for incarcerated hernia came up. I left in a hurry, on short notice, to operate at a farm house. The bichloride alcohol was forgotten and a watery solution used instead. The wound was infected and had to be opened on the third day, luckily, without further harm being done. A culture made from the pus showed staphylococcus albus. Dishes, instruments, dressings, silk and towels had been boiled immediately before operation. Staphylococcus albus is a widely distributed microbe, and might have lived on the patient's skin as well as on my hands or catgut. The boiled material could not very well be held responsible. Was it not better to omit further investigation and not destroy the convenient doubt, giving quietly preference to the patient's skin as a source? But this most agreeable of all the possibilities was excluded, as it clearly could be seen that the infection commenced deep in the wound, not in the stitch canals or in the superficial parts of the incision. Now, the bacteriological examination of the catgut, sterilized by myself, became a commanding necessity. It proved to be sterile. My hands remained as the proximate and the staphylococcus albus osteomyelitis the remote source. The assistant had done nothing but hold retractors. Alcoholic solution of bichloride had rendered the hands sterile, exposed to same infection three times, and watery solution had not! It was a natural and satisfactory conclusion to rely upon the former in the future. But this more enforced than voluntarily undertaken research had aroused again the interest in hand disinfection. The more recent papers on the subject all agree that chemicals are not so reliable as had been claimed, and that gloves give a far better protection.

Another not less interesting, and perhaps as valuable, fact was discovered in the literature on disinfection. PROFESSOR MIKULIG, in Breslau, had examined bacteriologically every active hand after disinfection, immediately before operation. Only the nurse in charge of dressing material, who never touched anything that had been in contact with a patient, had invariably aseptic hands after disinfection. The other members of the operating staff who had to dress wounds, remove stitches, open abscesses, et cetera, occasionally did not succeed in rendering their hands aseptic. Many probably have become aware of these facts in a different way without being led to them from efforts to complete some diagnosis. But what happened here surely happens elsewhere. A continued diagnostic research will awaken or reawaken interest in neglected or overlooked subjects.

As we realize the value of the complete diagnosis in searching for cause and origin of ailments we can expect the same by following the disease to its farthest branches. Such an investigation generally cannot be carried out in the living subject; its fields are the parts removed by operation and the dead body. The classification of a tumor or the determination of the character of granulations falls under the head of correct diagnosis. An investigation to ascertain whether a new growth is completely removed aims at deeper knowledge than a correct diagnosis demands. To determine how far our operation has been complete is a point of even more importance than to classify a tumor. The physician, who has turned over his patient to the surgeon wants a prognosis based upon specified facts and will not be satisfied by one based on general statistics, as he can find them in every text-book. But it has been proven before that a complete diagnosis warrants a better prognosis and these remarks, therefore, seem superfluous. The reason to discuss this part of complete diagnosis indeed lies elsewhere and will clearly be recognized by going over the history of the operation for carcinoma mammæ. This at first was restricted to the tumor or the mamma alone, then the removal of axillary tissue was pronounced necessary, next the superficial layers of the pectoralis major, third this entire muscle with its minor companion, and of late HALSTED urges to remove the supraclavicular tissue containing the glands in every case. In all the single stages of this developing operation the originators of progress based on and supported these suggestions by a series of cases completely diagnosed as to the limits of the growth. If, for instance, HALSTED cannot show by microscopical examination, that in a considerable number of cases the supraclavicular glands are infected, where they appear to be healthy to the examining finger, not many will follow him in aggravating the operation by this new addition. The value of such investigations is indisputable, but the amount of work necessary nearly excludes everyone from accomplishing it, who has not an institution behind him like Johns Hopkins Hospital, with its large number of cases and of assistants willing and able to do the examinations conscientiously, a fact not deteriorating the complete diagnosis. Goods requiring skilled labor and time to produce them are highly valued.

The chances to fully appreciate the complete diagnosis offered by the postmortem may be similar to those just spoken of. More frequently they seem to be different. The postmortem generally is undertaken by the practicing physician or surgeon to corroborate or establish a correct diagnosis. If there is no doubt in this respect, outside of scientific institutions examination of the dead body, as a rule, is not undertaken for obvious reasons. Sometimes we open the cadaver only far enough to allow the correct diagnosis. If this cannot be made macroscopically a piece is removed for microscopical examination. A complete diagnosis certainly cannot be made in this manner. More time and work is needed, and spending it we will get reward and satisfaction sometimes against all our expectations. Generally we are not alone at the postmortem. Other physicians are invited and their presence may prevent us from dealing superficially with or neglecting points of interest. So we get, to a moderate extent, the cooperation alluded to above, which makes the large hospitals the centers of medical science and will bring us nearer to this higher standard. As we are rarely able to secure the help of a well-trained pathologist, physician and surgeon can supplement each other advantageously to both. Here an example may be in place.

A postmortum was made on the body of a man about fifty years of age, who had been in good health until one year before he died. From that time he lost his appetite and slowly failed. He never vomited except once, not very long before his death, when he passed through a regular attack of ileus. There never were cerebral or pulmonary symptoms, never albumin, sugar or anything else abnormal in the urine. His most prominent complaint was backache. Later jaundice and clay-colored stools appeared, and a sausage-shaped mass to the right of the umbilicus could be felt. I saw the patient once in consultation with DOCTOR FLINTERMANN, of Detroit. We agreed that operation was not advisable. The patient died. The result of the postmortem was a primary cancer of the pancreas apparently involving the whole organ, multiple metastases in the liver and small intestine, the latter causing as many incomplete strictures of the canal. My surgical interest centered in this dissemination and it occupied all my thoughts. It was facinating to search for an erosion of a branch of the portal vein or the mesenteric artery; the former disseminating tumor particles over the liver, the latter over the intestinal loops, but the mass of adhesion and ulceration did not offer much hope to complete the diagnosis in this direction. The same seemed to be the case with another point to which attention was called by some one present. Why had there been no sugar in the urine in spite of the pancreas being entirely destroyed? But I believe that here, against expectation, further research has led to a fuller understanding. Examining the pancreatic tumor microscopically I found that, distributed in the cancerous masses, little islands of normal gland tissue were left. The idea suggested itself at once that these remnants might have been able to sustain the function of the organ in preventing diabetes. But another point seemed to be in contradiction with this acceptable explanation. The failing of the patient long before any hepatic symptoms appeared, indicated that the pancreas had lost its digestive power in the early stages of the disease. If these little isolated patches of gland tissue were able to fulfill one of the pancreatic duties why could they not fulfill the other. An explanation of this contradiction we can only give when we know how the normal pancreas performs these two functions. The digestive influence exerted by the pancreas is fairly well known. The juice formed by cells flows through the ducts and empties into the duodenum. In our case it clearly could be seen that the ducts were distroyed and therefore the juice could not reach the intestinal canal even if it was produced in sufficient quantity. The other process, the prevention of glycosuria by the normal pancreas, is not known. The explanation is sought by means of a theory. According to this, the pancreas produces, by internal secretion, a substance which, circulating in the blood, enables the tissues to burn the sugar and therefore prevent its appearance in the urine. In our case only the ducts leading to the duodenum were destroyed, not the blood-vessels. Nothing could prevent the blood circulating through the remnants of normal gland tissues, to load itself with this hypothetic substance. Whether this is the truth or not may be doubted. Nevertheless, the attempt to complete the diagnosis in our case is valuable.

The above theory has been put to test. If it cannot explain such a case, it is weakened at least if one cannot say disproved. A theory can lead the investigator in the right direction and also can mislead him for a long time. The earlier a wrong one is abandoned the better for the progress of science. To this end we help in collecting material by our efforts to make complete diagnoses. It may be that in some corner of the scientific world the relation between pancreas and diabetes has already been proven to be a different one. I do not claim to be up to date in physiologic chemistry. My aim is to illustrate how medical science may profit if every one of our profession investigates his cases as far as his ability permit. If no other advantages would result from such attempts, this very search for the truth will elevate us to a higher standard and thereby reward our efforts.

MEMOIRS.

A SYMPOSIUM ON PUERPERAL SEPSIS.

SYMPTOMATOLOGY.*

By JOSEPH B. WHINERY, PH. C., M. D., GRAND RAPIDS, MICHIGAN.

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ALTHOUGH the pathology of sepsis in general is still in its infancy, we should try to have as clear an understanding as possible as to the cause of puerperal sepsis. The time is past when the intelligent physician can delude himself with the idea that his patient has "caught cold" and as a result has a fever or that it is due to an indiscretion of diet or possibly malaria. Before touching upon the symptomatology of puerperal sepsis it may not be out of place to refer briefly to the origin of the trouble.

The cause of puerperal sepsis is identical with that of septic infection from any source. It is simply a wound infection dependent upon the entrance of microorganisms or toxic products into the living tissues. The septic condition may be either localized or general, an infection or an intoxication. The terms used to express these different conditions are sapremia—" so-called," septicemia and pyemia. The term sapremia has been used to designate the toxic condition following the absorption of the products of putrescent matter from some focus, the putrefactive bacteria themselves not gaining entrance into the tissues. But it has been found that all pathogenic organisms are capable of producing toxic substances of one kind or another which are injurious to life. The by-products of putrefactive bacteria closely resemble in poisonous quantities those of the pathogenic bacteria, but in locally infected wounds the former are rarely met with, while the latter are uniformly present. This forces us to ascribe the symptoms frequently attributed to putrefactive intoxication, to the absorption of toxins elaborated by the more common pyogenic organisms. For this reason intoxication or septic intoxication is a better term to use than sapremia.

In septicemia there is not only a local source of infection but a general invasion of the system by the germs and their toxins. Pyemia is also a general infection characterized by the formation of metastatic abscesses in various parts of the body distant from the point of infection. These foci of suppuration are caused by the lodgment of masses of bacteria or infected emboli which have gained entrance into the circulation. As an immediate result of labor there are always wounded surfaces of the genital tract which offer to pathogenic bacteria most favorable soil for development.

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*Read before the Section on Gynecology and Obstetrics of the MICHIGAN STATE MEDICAL SOCIETY, at the Kalamazoo meeting.

The following organisms have been described as occurring in and as factors in the production of puerperal sepsis. Streptococcus pyogenes, staphylococcus (aureus and albus), bacillus coli communis, gonococcus, bacillus of tetanus, diphtheria bacillus, diplococcus pneumoniæ, bacillus proteus, bacillus aerogenes capsulatus, bacillus of Lindenthal and typhoid bacillus, which seems to prove that septic infection may be caused by many different types of bacteria, although the streptococcus and staphylococcus are the organisms most commonly met with in puerperal infection, and at present it is a question whether the term puerperal infection, strictly speaking, should not be applied to streptococcic and staphylococcic infections only. These germs are, with but rare exceptions, introduced into the genital tract just before, during or within a short time after delivery.

When in a healthy condition the parturient canal may be safely assumed to be free from germs of a virulent character, and granting this we must trace the infection to ineffectual antisepsis or lack of precaution on the part of the attendants, or, as frequently happens, the trouble can be traced to decomposing blood clots or retained portions of placenta or membranes which have become infected from without.

Williams, of Baltimore, has done as much if not more work on bacteria of the vaginal secretion than any other investigator in this country. In summing up his work he concludes that the vaginal secretion of the pregnant woman does not contain the usual pyogenic bacteria which give rise to puerperal infection. This freedom from pathogenic germs is explained by the bactericidal action of the normal vaginal secretion, as the vagina does not contain pyogenic germs. Autoinfection with them is impossible. The gonococcus is occassionally found in the vaginal secretion, and during the puerperium may extend from the cervix into the uterus and tubes. It is possible but not yet demonstrated that in very rare instances the vagina may contain bacteria which may give rise to sapremia and putrefactive endometritis by autoinfection. His work demonstrates also the danger of vaginal examination. He has shown that the introduction of a small cylindrical speculum no larger than two fingers carries with it up into the vagina, in fifty per cent. of the cases, whatever pathogenic organisms may be present at the vaginal entrance. On account of the difficulty of thoroughly disinfecting the sensitive vulva with anything like the certainty with which we can disinfect our hands it becomes apparent that the introduction of a perfectly sterile finger into the vagina is not always a harmless procedure.

According to Bumm's classification we may have (1) a localized septic endometritis; (2) thrombotic form of puerperal fever; (3) ordinary lymphatic form; (4) internal erysipelatous form. According to this writer there is present in septic endometritis a superficial layer of necrotic tissue invaded by putrefactive and pyogenic bacteria. Beneath this is a protective zone consisting of leucocytes and including the remains of membranes and part of the muscular coat but not invaded by bacteria. The thrombotic form is a more severe development of the localized form and is accompanied by a general infection through the veins. There is with it a purulent phlebitis and a thrombosis at the site of the placenta. When these thrombi degenerate, portions may be carried by the blood over the system. In the lymphatic form infection takes place through the lymphatics and a general infection results. Bacteria get into the open lymphatics and quickly spread. The internal erysipelatous variety is with difficulty distinguishable from the lymphatic form. Many factors influence the symptomatology of puerperal sepsis.

According to Welch, the effects produced in the animal body by pyogenic cocci are determined by many factors relating to the infectious agent and to the individual exposed to infection. There are differences in these effects depending upon the species of the animal, upon the tissues and parts of the body infected, upon the readiness of absorption from the infected parts, upon the source, the number and the virulence of the organism, upon the nature and amount of toxic substances accompanying and produced by the bacteria, upon general predisposing conditions of the body and upon local conditions in a wound.

The above statements in regard to wound infection in general apply equally as well to puerperal sepsis. The clinical picture depends upon the degree of virulence of the toxins absorbed, upon the location of the affected area, upon the kind of bacteria present and their capability of existing and spreading in living tissues, and upon the resistance and antidotal powers possessed by the patient herself. The rapidity of systemic infection often depends to a considerable extent upon the richness of lymphatics at the focus of the trouble. An infected lacerated perineum or vagina is easier to control and systemic symptoms are of a much milder type than when the trouble starts from the cervix or uterus where the lymphatic supply is rich. An increase of temperature or of pulse rate alone should make one suspicious. The temperature is usually elevated but may be normal and in rare cases subnormal. When the septic intoxication is severe a chill usually occurs at the commencement of the trouble. It may be on the third or fourth day after labor, and is followed by a rise in temperature, with an increase in the pulse rate and the usual febrile symptoms accompanying a septic process. With septic intoxication there is usually an offensive odor to the discharge, due to decomposing retained secundines. The intensity of this intoxication depends upon the amount of absorption and the length of time the process is allowed to run without interference. This condition is less dangerous than a true general infection.

Putrid intoxication is not so grave as septic infection. Any local infection may become a general infection and putrid intoxication may result in death. If septic symptoms occur after the removal of retained tissues they may be due to a septic endometritis or to a retained discharge caused by some obstruction at the cervical outlet. If the infection penetrates deeper than the endometrium there may result many septic complications. A few of the commonest being metritis, cellulitis, peritonitis, lymphangitis and phlebitis. Acute septicemia, in the great majority of cases, originates in the uterus, the symptoms often appearing sooner after labor than those of septic intoxication. This form of sepsis is most frequently caused by the streptococcus. The lymphatics rapidly take up the bacteria or their toxins, and the system is soon overwhelmed by the poison. The temperature varies from subnormal to a high degree and the pulse is small and rapid. In this condition the pulse is the best criterion of the state of the patient. The condition of the lochial discharge may offer no guide as to the severity of the infection. In the most acute type the lochia may be entirely devoid of odor. An arrest of the lochial discharge is not due, as is commonly believed by the laity and also some medical men, to catching cold, but is due to a diminished excretion, an accompaniment of infection, or to a stenosis of the cervical canal, preventing its escape. Putrid intoxication is the most common of the different types of sepsis and is said to equal seventy-five per cent. of all the cases of puerperal infection. A differential diagnosis between septic intoxication and septicemia may sometimes be made by a bacteriological examination of the blood. The presence of bacteria indicates septicemia. In arriving at the diagnosis of puerperal sepsis one must first make a thorough physical examination and exclude other possible causes for the febrile condition. A rise in temperature may be due to a cracked nipple, mastitis or to autointoxication as a result of constipation. Malarial complication during the puerperium is not common and the differential diagnosis between malaria and sepsis is important, as it often happens that an intermittent febrile condition is diagnosed as malaria, when in reality it is a septic process. A certain differential diagnosis can always be made by finding the malarial parasite in the blood or by the marked leucocytosis which is always present in septic conditions. Typhoid fever when occurring during the puerperium is usually modified and may be diagnosed by the presence of rose spots, the application of the Widal test, the diazo reaction and the absence of a septic leucocytosis. In obscure cases of septic infection the examination of the blood may be the only method of clearing up the diagnosis. If pyogenic organisms are found, the result is positive; on the other hand negative results do not exclude the possibility of septic trouble.

Blood for such an examination must be taken directly from the veins and in considerable quantity. It has been found that pyogenic bacteria invade the general circulation in rather small proportions even in severe cases and as a rule late in the disease. Undoubtedly absorption of toxins is the most important feature in cases of sepsis. The value of blood cultures during life from a standpoint of diagnosis is therefore somewhat limited, because the microbes are so infrequently demonstrable. More definite knowledge can be obtained from a clinical examination of the blood elements. In well marked cases of sepsis there is a diminution of red cells. This diminution may be very marked and appear in a very short time. The greater the anemia the graver the prognosis. The hemoglobin is diminished in proportion to the number of red cells. In cases of moderate severity there is a marked leucocytosis. In mild or in very rapid and severe cases leucocytosis is slight or absent. This is due to the fact that in mild cases the intoxication is not sufficient to stimulate a leucocytosis while in severe cases the patient is killed by the toxins before the hematogenic function becomes operative. The leucocytosis which normally occurs after labor is not nearly so marked as that which follows septic trouble.

In closing it may not be out of place to emphasize a few points in regard to prophylaxis. Asepsis and not antisepsis should be the aim of the obstetrician. Knowing that the normal vaginal secretion is free from pathogenic germs we should try to prevent the entrance of these organisms from without. The vulvar outlet is quite frequently the source from which these germs are spread and on account of this risk of infection vaginal examinations should be few in number. With thorough cleansing of the vulva and hands vaginal examinations are relatively harmless. The future limitation of puerperal sepsis will depend upon the thoroughness of the aseptic measures employed by the obstetrician.

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THE MEDICAL TREATMENT, WITH ESPECIAL REFERENCE TO SERUM THERAPY.*

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During the last year a number of articles on the subject of serum therapy have appeared in the medical journals of this country and Europe, showing a far greater interest in the subject than has been evinced in previous years. The evidence as shown in them appears to be more or less contradictory in character, which is apparently due to a variety of causes, such as imperfect diagnoses, mixed infections, late instigation of treatment, worthless serums, too infrequent use of the remedy, et cetera. The testimony is, however, on the whole, encouraging and points toward ultimate success. The rapid advance in the science of bacteriology will doubtless in the near future reach and solve some of the problems that are now causing this new therapeutic field to lack the attractiveness of absolute success.

As any case of puerperal infection may be due to the action of one or more of a number of definite toxic agencies, the treatment must of necessity be of a specific character and used understandingly, applying the suitable remedy where possible to each variety of the disease. This being the case, exact diagnosis, usually by the use of the culture tube and microscope, is a necessity for the thoroughly scientific treatment of this disease. Bacteriologic examination alone can determine with precision the variety of infection in any given case.

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* Read before the Section on Gynecology and Obstetrics of the Michigan State Medical Society, at the Kalamazoo meeting.

As illustrating the value of such examinations and the varieties of infection that are liable to cause puerperal pyrexia, a report of Doctor J. W. Williams, of Johns Hopkins Univertity (*American Journal of Obstetrics*, September, 1898), is of interest. In a total of forty-four cases in which fever was present, there were found streptococci in eight; staphylococci in three; colon bacilli in six; gonococci in two; anaerobic bacteria in four; unidentified aerobic bacteria in three; bacteria in cover glass, but cultures sterile, in four; diphtheria bacilli in one; gas bacilli in one; typhoid bacilli in one; cover glass, cultures, and blood sterile in one; cover glass and cultures sterile, with malarial plasmodia in blood, one. Several of the cases were infected with more than one of the varieties.

In referring to the eleven cases in which the examination was negative, the writer says: "How great a gain this is can only be appreciated by those who have experienced the immense relief of finding that the uterus is absolutely sterile in a patient whose temperature has suddenly shot up to 103°, to 104° on the third or fourth day of the puerperium, and in whom we suspect the possibility of an infection." Think, also, of these eleven cases being curetted and douched and heroically medicated on the shotgun principle as too often occurs in the treatment of these cases.

In September, 1896, at the meeting of the American Association of Obstetricians and Gynecologists, I read a paper on "Puerperal Infection," in which I reported a case of puerperal diphtheritic infection, in which the diagnosis was made by bacteriologic examination, and the case successfully treated with diphtheria antitoxin serum. I also reported six cases of puerperal diphtheria at the meeting of the same association, in August, 1897, in all of which bacteriologic examinations were made, four of them being pure Klebs-Loeffler, and two Klebs-Loeffler and stroptococcus.

Since then I have had the opportunity of examining six cases, two of which proved to be pure streptococcus, two streptococcus and staphylococcus, and two pure staphylococcus. I have also seen one case, wherein I was called in consultation after the patient was comatose, which gave a history of having fatally infected the infant with erysipelas and an attendant with the same disease, and yet the patient had been treated with diphtheria antitoxin serum, without any bacteriologic examination having been made. In another case, which I reported among the group of six cases of puerperal diphtheria, before mentioned, the mistake of applying the wrong treatment because of an error in diagnosis, was made. The patient, when I saw her in the evening, had had several very violent rigors and temperature was high. A culture was made, and judging from the violence of the symptoms it was a streptococcic infection, and desiring to give the patient the benefit of treatment before the report on the culture could be made, the streptococcic antitoxin serum was immediately used. On the day following, just as the report came that the culture showed pure Klebs-Loeffler bacilli, the patient was seized with a violeut chill and died soon after.

Many more citations of a similar character could be made, but these are sufficient to illustrate the point and show the advantage of exact diagnosis in the treatment of puerperal infection.

Doctor Williams' report shows that not only can puerperal pyrexia be produced by a number of known agencies, but that fever may occur from causes outside of the genital tract, which is not due to either malaria or mastitis. Such cases are very likely due to infection from the alimentary canal and can be usually cured by thoroughly unloading and disinfecting the bowels.

The reports from various sources all prove, as the cases cited show, that the streptococcus is not so prevalent as a causative factor in puerperal infection as it has been the custom of late to believe. This belief has doubtless led to some of the disappointments in the use of the antistreptococcic serum. I believe, also, that; judging by the results obtained from the use of the antidiphtheritic serum, we are expecting too much from the antistreptococcic serum. While some reports show that the latter does sometimes act as positively in reducing temperature and pulse, and causing a rapid subsidence of all symptoms, as does the antidiphtheritic serum, yet in others which show no immediate subsidence of symptoms at first, its continued use, I am beginning to believe, may so fortify the system as to prevent that general systemic infection which usually causes the fatal termination of these cases, and leave only the local and less dangerous sequelæ to be dealt with.

While writing this paper this phase of the serum treatment, I believe, was illustrated in a case of streptococcic infection that I have seen several times in consultation with DOCTOR GEORGE E. RANNEY, of Lansing. The case was a primipara in whom there had been a slight laceration of the perineum inside of the fourchette, forming a pocket, which was the starting point of the infection. The form of infection was found by culture to be pure streptococcus, and its source was quite conclusively proven to us to have been tonsillitis, as the nurse who cared for the patient had just recovered from the disease, which she contracted from a number of cases in one family which she had been nursing.

I saw her on the fifth day after confinement. Her temperature was then 104° and had been nearly that for forty-eight hours. A thick white membrane covered the surface of the perineal laceration and other abrasions of the vaginal wall. The cervix had not been lacerated and there was no membrane upon it. The lochia had ceased, but there was no tenderness or undue engorgement of the uterus. A mixture of iodine, carbolic acid and chloral was injected into the uterus and applied to the membrane where found in the vagina, and the nurse was instructed to use the peroxide of hydrogen, by vaginal injection, two drachms every two hours during the night. Nuclein solution and quinine were prescribed. The next morning the temperature was normal and remained so until toward evening when it began to rise and increased steadily until noon of the seventh day when it registered 103°.

I saw her again at that time and found the membrane nearly gone from the vaginal abrasions, but a new growth of it had formed in the cervix which completely encircled the os and passed up into the cervical canal. The uterus was much larger than at my previous visit, and was apparently thoroughly infected. The only applications made since my last visit had been by the use of the peroxide of hydrogen and hot douches. The iodine mixture was again thoroughly applied inside the uterus and to the vaginal abrasions, the douche used, and the vagina loosely packed with iodoform gauze, and these applications DOCTOR RANNEY continued to use twice daily afterwards. As the positive diagnosis of streptococcus had then been made, the use of the serum was begun, ten cubic centimeters being used hypodermically every twelve hours until three doses were given. The use of nuclein solution and quinine was continued. This treatment was continued until the thirteenth day with the patient constantly improving, and as the membrane had ceased to form, the gauze vaginal packing in the vagina was discontinued and more frequent douches used, the nurse giving the vaginal injections every three hours and DOCTOR RANNEY the intrauterine three times daily. At this time the uterus was small and well contracted and all abrasions appeared healthy and free from membrane, but an exudate had developed in the left broad ligament, and this had caused an exacerbation of temperature. The patient had had nine doses of the antitoxin, and as the membrane had ceased to appear it was decided to discontinue its use.

I saw the patient for the last time yesterday afternoon, when, with the assistance of DOCTOR JENNINGS, of Detroit, we anesthetized her and made a careful examination of the exudate with the view of operation if pus were found. The mass was free from fluctuation and had not enlarged for several days, so no operation was attempted. The general condition of the patient had been excellent throughout the attack, her appetite remaining good and tongue clear. She is in excellent spirits, has no pain excepting after an examination. Has had no symptoms whatever of systemic infection, having had no chill or sweating. Her temperature for the past three days has ranged lower, showing a minimum of 98.5° and a maximum of 102.5°.

It was noted that the reproduction of the membrane was not prevented by the use of the serum, as a discontinuance of the iodine mixture application for twenty-four hours was followed by its reappearance. This may be a noteworthy fact, as, taken in connection with the absence of symptoms of systemic infection, it may indicate one of the limitations of the remedy, while the lack of systemic infection and absence of pus may indicate its true and only value. It certainly does not act in the same manner as the diphtheria antitoxin serum, but if we find that patients infected so violently as this one was recover under its use, while others under the usual form of treatment, without its use, almost all die, then we must endorse it; and time, with close observation of symptoms when it is used, will demonstrate other minor points which will give the remedy a more scientific position in therapeutics.*

Thus far, there are but two available serums that can be used in the treatment of puerperal infection, namely, the antistreptococcic and the antidiphtheritic. Neither of these is of any value in the treatment of the disease if due to any other infection than the one that it is made to combat. The antidiphtheritic serum, if properly made and preserved, is quite uniform in its action and may be as confidently depended on to cure puerperal diphtheria as it is when used for the disease where the membrane is found in the air passages. I have used it successfully in six cases in which the diagnosis was verified by bacteriologic examination, and with equal success in two cases supposed to be diphtheritic in which no bacteriologic diagnosis had been made. Unfortunately, my experience with the antistreptococcic serum is not so happily uniform in its beneficial action, even in cases of pure streptococcic infection. In some cases it works as positively as does the antidiphtheritic serum, while in others without any known cause, the serum being the same, and the cultures apparently the same, no apparent results are obtained. Various conjectural causes have been advanced for this variation. One is that there are different varieties of streptococci which are affected differently by the serum. Another is that the action of the streptococci produces changes in the fluids and tissues of the body after a certain time that tend to annul the action of the serum. Both theories seem reasonable. There is certainly often a great difference in the activity of different cultures of streptococci.

In one case which I saw in consultation with DOCTOR WELLINGS, of Detroit, the woman had had fever for several weeks, and when I saw her the thermometer registered a temperature of 107° Fahrenheit, the culture showed a remarkably slow growth of pure streptococci, and the case was quickly cured by one thorough application to the endometrium of Goodell's endometritis mixture of iodine, carbolic acid and chloral. In this case no secondary foci had formed anywhere in the body, and the fevor was apparently due solely to the toxins which were being manufactured by the one source of supply in the uterine cavity, which being destroyed the system rapidly eliminated the toxins.

In another case which I saw with DOCTOR B. R. HOYT, a case of mixed diphtheria and streptococcus infection, the diphtheritic element was quickly subdued with the antidiphtheritic serum, while the streptococcus, having invaded the veins of the legs and caused suppurative phlebitis, was apparently not affected by the antistreptococcic serum.

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*NOTE.—Patient did well till May 28, when her temperature rose to 105°, and continued high until June 1, when abdominal section was made and the left Fallopian tube, distended with pseudomembrane, removed. (Culture showed steptococcus and staphylococcus.) No pus found. She recovered from operation but died in a uremic convulsion, due to acute nephritis, three weeks later.

On the other hand, a case which I recently treated in Harper Hospital illustrated the efficacy of the serum when no secondary foci existed although used late in the disease. It was a case of phlebitis, six weeks after confinement, high daily temperature for three days after admission, swelling of right leg, complete rupture of perineum, uterus normal. Streptococci developed in cultures of pus taken from inside the vagina. Three doses of the antistreptococcic serum, used eighteen hours apart, reduced the fever, and the swelling of the leg rapidly subsided. In this case no suppurative secondary foci had developed and the serum acted with great promptness.

In some of the cases of streptococcus infection it would thus seem to be of the utmost importance to use the serum as early as possible in the disease. It should also be used more frequently than is necessary in the use of the antidiphtheritic serum. My experience and observation would indicate that the best results are to be obtained by injecting, hypodermatically, ten cubic centimeters once in from twelve to eighteen hours. Three doses thus used will usually demonstrate its applicability to the case, and it then can be used according to the indications as shown by temperature and pulse. Relapses are very liable to occur with streptococci infection, which necessitates careful observation of cases that are apparently recovering, so that treatment may be renewed at the earliest indication of a new onslaught of the disease.

There have been a few cases reported in which the serum was thought to have acted unfavorably, but the proof in no report that I have seen has clearly demonstrated this. In one case the serum was used when the patient was almost moribund, and as a last resort, while in others the kind of serum used and the manner of giving it were not stated, so that the probability is that the fault was not with the serum unless it had been allowed to spoil. I have known of a feeling of depression to follow its use, but have observed no serious symptoms that could be attributed to it.

In cases of mixed Klebs-Loeffler and streptococci I first use the antidiphtheritic serum as it does its work more surely and rapidly, then follow with the antistreptococcic.

We know little as to the *modus operandi* of serum therapy. If the beneficial effect is due to a stimulating effect on the white blood corpuscles then one serum should be useful for more than its own kind of infection, but such is found not to be the case. In an article on "Serum Treatment of Streptococcic Infection," by DOCTOR E. W. SAUNDERS, in the January (1899) *Journal of Obstetrics*, he says, regarding this phase of the subject: "The exact properties of this serum are only partially determined. It has no antitoxic potency, and its favorable effects have been ascribed to certain antibodies or alexins, that is, certain definite germicidal compounds. But BORDET has clearly shown that this serum has no more germicidal properties than normal serum. He maintains that its principal value lies in its power to stimulate phagocytosis. Italian bacteriologists, however, hold that besides its stimulation of phagocytes it also renders the plasma capable of paralyzing more or less the micrococci. As the medicinal serum *per se* does not affect these microbes, we must conclude that its whole action is a stimulation of the leucocytes. VAN DE VELD has proved that alexins are secreted by the white blood corpuscles, and this bactericidal substance must be formed in increased quantities under the stimulation of the serum. Therefore, as we know, the antistreptococcic serum stimulates the leucocytes, and as a result we have more active phagocytosis and increased alexin formation. We have no definite knowledge of any other action. The specificity of this power is still undecided. We know that leucocytes become more potent toward streptococci, but whether other bacteria may also be influenced by this stimulation, is an undecided question. Clinical evidence seems to be against the assumption that antistreptococcic serum acts favorably in other directions. For the present reliance can safely be placed only on its specific activity against the streptococcus. This specific action manifests itself against the streptococcus pyogenes (ROSSBACH) and the streptococcus erysipelatis (**Fehleisen**), the identity of which is firmly established. **Bullbach**, moreover, has demonstrated that an animal immunized to the streptococcus erysipelatis is also immune to the pus-producing streptococcus. From biological investigation the conclusion is justifiable that this serum is valuable in all the clinical forms of septicemia produced by the streptococcus."

Constitutional medication, as well as the treatment of the local source of infection, should be actively used along with the serum treatment. Nuclein and protonuclein, whisky, quinine and strychnine are all remedies of value and should be used, the latter three as indicated and the nuclein in all cases. Just how much benefit is derived from the nuclein it is difficult to estimate, but theoretically its administration is correct, and the phagocytes should have the benefit of the theory. I feel certain that the remedy has assisted quite materially in curing some of my cases. I usually use of the nuclein solution, one-half drachm every two or three hours given in water on an empty stomach. I prefer giving the quinine in from ten to fifteen grains, twice daily, rather than in small doses at short intervals, as I believe it has a more positive effect on the toxins in the system when given in this way.

The local treatment should be instituted only after a careful examination has determined the seat of infection, as it is only in this way that intelligent therapeusis can be applied. The primary seat of infection is not always inside the uterus, but in many cases will be found in abrasions of the vaginal mucous membrane, pockets formed by lacerations of the vaginal wall, ruptured perineum or lacerated cervix. The surfaces of such injuries should be carefully dried and a powerful antiseptic applied to them, and the agent should be such as will act quickly on septic material, membranous exudates, et cetera, without having the power to destroy the basic zone of granulations which are forming to act as a barrier against the entrance of the toxins into the system. Such an agent I have found in Goodell's endometritis mixture, composed of pure iodine, one part, carbolic acid and chloral, of each two parts. It is my custom to apply this to all infected parts once or twice daily, and have the nurse inject about two drachms of the peroxide of hydrogen into the vagina every two hours, night and day. If the infection has invaded the uterus the cavity is carefully washed out with the double canula, using any antiseptic solution, dried with cotton on an applicator, then, by means of the glass injection tube, the same carbolic, chloral and iodine mixture is passed up to the fundus, about a drachm being used. This is then applied to all parts of the uterine cavity by the use of the applicator, or forceps, with cotton. The curette should be used with great caution, and never used except to remove pieces of retained placenta, membranes, or other foreign material, as in the ordinary case of infection its action is simply to promote absorption by removing the granulations which nature is throwing up as a breastwork against the invasion of the enemy.

The varieties of infection which are unattended with the formation of a pseudo-membrane, such as gonorrhea, putrefaction and pus-forming bacteria, can with benefit be treated with the intrauterine application of the iodine mixture once a day for three or four days, but in these cases the intrauterine douche with permanganate of potash solution, two grains to the ounce, or other as efficacious, nonirritating and nontoxic agent should also be freely used as often as from two to four times in twenty-four hours, the solution being as hot as can be borne.

In cases of infection, a ruptured perineum which has been repaired should be inspected frequently, and if the edges of the wound appear infected the stitches should be removed and the wound carefully disinfected and the open method used. The drainage of the uterus should be free and if it is not, it should be made so by the use of a drainage tube. When abrasions and lacerations of the vaginal wall prove to be the seat of infection, instead of using the peroxide of hydrogen the vagina may be loosely packed with iodoform gauze, after each application, in such a manner as to prevent the opposing sides coming in contact.

The local treatment of all forms of infection may be summed up in one sentence of two words, namely, *thorough disinfection;* and in connection with this I desire to make one point very emphatic, and that is that the use of douches alone is not sufficient in cases in which a pseudomembrane is present. The membrane in some of these cases is very thick and the agent used in the water cannot be made sufficiently powerful to penetrate it, and the consequence is the growth continues beneath the membrane with unabated rapidity. The development and redevelopment, when destroyed, of this exudate should be as closely observed and as thoroughly, and also as gently treated as though it were in the throat of the patient, as its early and continued destruction is of the greatest importance in gaining and retaining control of the disease.

The hot vaginal douche is useful in reducing the inflammation and attending edema, removing fluid exudates and debris, and is usually very grateful to the patient. It should be used freely if the attendant is capable of doing it properly. If not the doctor will best attend to that himself, using it before each treatment, or oftener if necessary.

The general practitioner, situated in the country, far from the sources of supply of culture tubes, expert pathologists, et cetera, will probably ask of what use is all of this scientific diagnosis to him? The knowledge of these things will be of much use to him, even if he has not the facilities for making a bacteriologic diagnosis. In a small community the presence of infectious diseases is usually well known to everyone, so that in a given case of puerperal infection a diagnosis, often by exclusion, can be fairly well arrived at. Erysipelas, scarlet fever, and even tonsillitis, may be the sources of streptococcic infection, while diphtheria—including membranous croup—may be the cause of diphtheria occurring in the genital tract. Both forms of infection produce a white pseudomenbrane which will be found covering the abrasions or lacerations in the vaginal wall or cervix. Pure streptococcic infection is productive of no odor in the discharge from the infected parts so that unless mixed with the more benign bacteria of decomposition this popular sign of infection will be entirely lacking in this most virulent of all puerperal infections. The diphtheritic infection may also be free from odor until sloughing of the affected areas occurs.

The staphylococcus also produces a white pseudomembrane which resembles that produced by the streptococcus and the Klebs-Loeffler bacillus, and as the staphylococcus is a common habitue of the epidermis, infection from this source is the most likely, if it occur in a community which is free from the streptococcus or Klebs-Loeffler breeding diseases.

The bacillus coli communis produces no membranous exudate. Its presence is attended with suppression of lochia, purulent discharge and the early occurrence of serious constitutional symptoms.

Gonorrheal infection is attended with no membrane, but causes suppression of the lochia when the uterus is invaded, while the characteristic constitutional symptoms of infection are not violent. If the Fallopian tubes are invaded, peritonitis may result, which is usually local in character but may be general. The history of the case will usually corroborate the diagnosis as a purulent discharge will usually have been present before confinement.

SUMMARY.

Local Treatment.—Early recognition and destruction of pseudomembrane by topical applications is of great importance. Iodine, carbolic acid and chloral mixture is a safe and efficient application for this purpose. The intrauterine douche, frequently applied is of most value in the forms of infection unattended by the formation of a pseudomembrane, but is useful also in connection with local applications. The vaginal use of the peroxide of hydrogen is useful in all forms of infection. Frequent packing of the vagina, previously dried, with iodoform gauze is especially useful in cases attended with pseudomembrane. Inspect infected cases daily with the speculum. Some uncomfortable surprises may thus be avoided, and the local treatment will be made understandingly.

General Medication.—Quinine in large doses twice daily; whisky and strychnine to support the heart, if indicated; nuclein and protonuclein in all cases; mercurial and saline cathartics at first in all cases, then as indicated. Serum therapy to be applied in all cases when the Klebs-Loeffler bacillus or the streptococcus can be demonstrated by bacteriologic examination to be present, and also in all other cases when such examination has not been made, but in which these specific varieties of infection are probably present. Streptococcus antitoxin serum is to be used persistently to prevent pus formation and symptoms of systemic infection, even if local symptoms and high temperature persist.

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THE SURGICAL TREATMENT.*

By A. W. ALVORD, M. D., Battle Creek, Michigan.

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When the surgeon places himself vis-a-vis with a case of puerperal septicemia he has reached a moment in his existence of grave importance. A human life is resting in his hands. Upon his decision and action will probably depend the issues of that life. Given a typical case without complication and his path is plain before him, though full of danger. It is his first duty to remove from the cavity of the uterus all debris that can serve as a nidus for the streptococci. It may be that a little of the secundines have been left behind, perhaps so caught between the contracting villi that material force must be used to release it. Possibly a decomposing bloodclot furnishes the nidus for septic poisoning; whatever of foreign body remains within the uterus must be removed. How? Some will tell you with a sharp, some with a dull curette. Each one must decide this point for himself. But either will do the business successfully if skillfully used. Every half-inch of surface must be scraped by the curette. But what is of great importance is a thorough washing out of the uterus at the time of curettement. An excellent instrument has been devised, having a hollow handle through which a stream of antiseptic fluid is kept passing during the operation. But this instrument is not necessary to perfect work. The ordinary bag syringe filled with a weak solution of boric acid, creolin or formaldehyde, frequently used during and after the operation will effect the same results. An anesthetic will be necessary to thorough work, both for relief of the nervous system, which is a frequent cause of complications, and that with skilled hands you may feel the muscular coat after the endometrium has been removed, and not go through it. This operation, if thoroughly done, will not need to be repeated, when the case has been seen early, but irrigation of the womb with a syringe nozzle having a free return flow should be used three or four times daily, employing some efficient antiseptic in the water, which should be used in generous quantities and hot as can be borne comfortably. Forcible dilatation is usually necessary before the operation to secure free outward flow for all fluids. At the close of the operation it is wise to pass two or three strips of iodoform gauze up into the fundus of the womb, allowing the ends to remain outside the vulva to act as a drain. Now, put your patient to bed amid perfect quiet and the temperature will subside, the pulse lessen its frequency, the stomach and nervous system will react and your patient will soon be out of danger.

But when complications have unfortunately arisen before this relief was brought to the patient the path of duty will not be so plain. It is now generally conceded that erysipelas, puerperal fever and most septicemias are due to the action of streptococci of the same or similar species. **Marmorek** has succeeded in producing a serum intended to antidote this form of microbe. Its use both in this country and Europe has proved quite successful and leads us to hope much from it. **Marmorek**'s antistreptococcic serum is used in doses of from five to forty cubic centimeters.

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* Read before the Section on Gynecology and Obstetrics of the Michigan State Medical Society, at the Kalamazoo meeting.

But some day you will encounter a case wherein having done all those things, together with appropriate medical treatment, you will stand aghast at their inefficiency and ask yourself: "Is there nothing else I can do?" "Must this woman die?" Mayhap you have been called late into a case wherein medical treatment alone has been relied upon. The uterus, filled with a seething, fermenting mass of debris, is now terribly inflamed, discharging a foul sanious fluid; the ovaries and tubes and possibly the broad ligament and peritoneum have become involved; the pulse is weak, rapid and thready. You realize that if you keep the uterus and appendages in place, death will surely ensue. What shall you do? Give her the only chance for her life by performing hysterectomy. She may not survive the operation, but without it there is no hope. A sufficiently large percentage of these desperate cases have been saved by removing the uterus and adnexa to give this operation a place at least as a *dernier* resort.

EARLY DIAGNOSIS AND TREATMENT OF PARETIC DEMENTIA.*

By IRWIN H. NEFF, M. D., Pontiac, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

This article is by no means exhaustive, as time will permit me only to refer to a few points of interest to the physician in general practice. To a physician not engaged in asylum work the diagnosis and treatment of paretic dementia may have but little of interest. As regards the diagnosis he may content himself with following the ordinary rules and directions in a neurological treatise, and in relation to the treatment he rightly regards this as being in the province of the alienist. At the same time he reserves his opinion that the disease is a progressive one, and that the patient cannot materially improve. To an extent he is justified in this opinion, as general paralysis of the insane is a progressive disease, and the diagnosis having been made the outlook is often a gloomy one. But these cases are amenable to improvement, as recent advances in methods of treatment have given some encouraging results.

Again, the organic insanities show multiform symptoms, and the resemblance of other insanities to paretic dementia is sufficiently remarkable to require us to exercise care in our diagnosis. I have therefore collected a few of the newer ideas relating to the early diagnosis and treatment of paretic dementia. Naturally I shall refer to other points in connection with the disease, but shall as nearly as possible confine myself to the text. In order to prevent confusion a definition of general paralysis may not be amiss. The clinical type is a slow and progressive mental deterioration, with psychical complications, dependent upon developing dementia. Certain physical signs or stigmata occur in a more or less irregular way. As an anatomical basis we have a cerebral atrophy and degeneration in the central and peripheral nervous system.

The early diagnosis of paretic dementia is all-important; it is of incalculable benefit to the patient, and of the greatest importance to the friends and relatives. During the past two years paretics have furnished ten per cent. of all admissions to the Eastern Michigan Asylum, and our experience justifies us in saying that if we had secured control of such patients at an earlier stage of the disease we might have secured better results. Indeed, this is not to be wondered at when we remember that paretic dementia in its prodromal stage is a nutritional brain disorder, and whether we regard it as a tertiary syphilitic manifestation or not, we should at this time institute appropriate treatment. Early diagnosis, therefore, has a twofold object: first, benefit to the patient; second, relief to the family, by preventing or moderating the excesses and expenditures so prevalent in the early stages of the disease. Tabes and paretic dementia have many points in common, not the least interesting being the relation of syphilis to the two diseases. We may conservatively place the percentage of syphilis in both affections at sixty per cent. In other words, syphilis is not the only cause of the two maladies; other factors are at work. It is found that antisyphilitic treatment cannot prevent the development of the disease in a syphilitic, neither does it seem to materially modify the disease; therefore it is somewhat of a fallacy to depend upon "specific" treatment alone. Treatment instituted at an early stage of tabes is at times of signal benefit; why cannot this be true in paretic dementia? The experiment is certainly worthy of a trial. The physician in many cases has control of a tabetic in an early stage of the disease. If paresis is recognized treatment is by many thought to be futile, and the case progresses until some unlooked-for symptom causes its commitment to an asylum. I mention these few facts to show that the early diagnosis of paretic dementia is essential, and that if cases were given active treatment at an early stage the patient and dependent relatives might be materially benefited.

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*Read before the Detroit Academy of Medicine.

Although I shall necessarily briefly summarize the differential diagnosis I wish to dwell particularly upon the early symptoms of the disease. A well developed case of paretic dementia is easily diagnosed; a developing case may be overlooked unless a careful inspection and examination is made. Here we again have an analogy between paretic dementia and tabes. Just as in tabes it has been found that certain symptoms are primary ones, so we find that in the initial stage of general paralysis there appear physical phenomena which are strongly suggestive of the disease, and it is obvious that a knowledge of these symptoms will allow of a recognition of the disease at the time treatment is most valuable.

The attention of the physician should be first directed to the pupil. Pupillary changes occur quite frequently in the early stage, and often antedate the mental symptoms. A bilateral myosis and an immobile pupil has considerable significance. It is truly said that these conditions signify tabes or paretic dementia. Reflex immobility of pupils, or irregularity with sluggish reaction is peculiar to general paralysis, and often are cardinal symptoms. Other pupillary and ocular disturbances occur during the course of the disease, but may be regarded as secondary symptoms. As illustrative of the above an analysis of the pupillary symptoms of paretics admitted to the Eastern Michigan Asylum during the past two years, at the time of admission, showed irregularity and sluggish reaction in fifty-five per cent., the Argyll-Robertson phenomenon in eleven per cent., reflex immobility in nineteen per cent., while only fifteen per cent. showed a normal pupillary reaction.

Time will permit me to allude to only one other easily applied test for developing paresis, namely, the knee-jerk. In the prodromal stage it is often active and exaggerated, and only absent in the ascending type. Later in the disease it is diminished or absent. Although there is no invariable rule an active knee-jerk may be considered a fairly constant symptom in the prodromal stage. An analysis of the knee-jerk of paretics in the different stages of the disease, admitted during the past two years, gives sixty-seven per cent. with active and exaggerated knee-jerk, fifteen per cent. with knee-jerk absent, and seventeen per cent. with knee-jerk present, but showing qualitative changes. A combination of the Argyll-Robertson pupil, or bilateral myosis, with active knee-jerk is all but conclusive of paretic dementia. A summary of the principal physical signs in the initial stage is as follows: Argyll-Robertson, immobile, or contracted pupils, exaggerated or perverted knee-jerk, facial tremor, slurring or halting speech, defective innervation of the face, and cerebral seizures. These physical symptoms should always be looked for in suspected cases, and carefully considered with the mental history of the patient. I have purposely considered the physical signs before the mental symptoms so that I may make more impressive the rule never to diagnose paretic dementia without a physical sign. Many mistakes could have been avoided by adherence to this rule. Although the mental symptoms may be strongly suggestive, a diagnosis should never be made on this alone. In other words, we should have a combination of the mental and physical signs.

From the very beginning the psychical condition of a paretic is dementia. There is mental failure, manifested in the ethical sense, in the affective and intellectual faculties of the patient. These early mental symptoms of the disease have been so carefully worked out and so well explained that it is unnecessary to describe them here. Many of the mental symptoms in this initial stage resemble those found in neurasthenia, but an examination will show that we have here more than nerve exhaustion. The positive evidence of mental decay and the coexistence of one or more physical stigmata permits of differentiation. It must not be forgotten that in the early period of paretic dementia, although an unnatural cheerfulness and peculiar indifference is often present, the typical megalomania does not appear until the stage of elation is declared. This unnatural buoyancy is foreign to neurasthenia, as in this disease we have as expressions of the nerve exhaustion, depression and irritability.

So much has been written on the distinction of cerebral syphilis and general paralysis of the insane that it would seem that a diagnosis of these two maladies was comparatively easy. Although we know that the two diseases are distinct it is at times difficult to determine whether we have a case of brain syphilis or a case of paretic dementia. They have symptoms in common, but the course of the two diseases and the order of appearance of the symptoms show differences which will in many cases permit of a diagnosis. The question may be asked, "Is such a diagnosis of much practical importance?" This can be answered affirmatively. In cerebral syphilis we have an irregular course, long remissions are more likely to develop, and we observe at times a remarkable improvement, which may be of long duration; in paretic dementia the remissions are of shorter duration and more irregular, while in cerebral syphilis irregularity in symptoms is the rule, and the remissions extend over a longer period. I have in mind two cases of cerebral syphilis in which for two or three years respectively there has been a decided remission. It is apparent that if a physician should attempt to estimate the duration of life in these cases of cerebral syphilis, as he might do in cases of paretic dementia, he may fall into grevious error. Unless forewarned the friends or family of the patient may regard the remissions as a true cessation of the malady. Alcohol may cause paresis, but it also gives rise to a condition simulating paretic dementia. By a careful consideration of the mental and physical peculiarities of the two diseases a distinction can be generally quite easily made. Cases of maniacal exaltation occurring in the male subject at the age of forty should always excite suspicion. Although the great exaggeration of ideas which we have in the elation of paretic dementia is seldom found in simple maniacal cases, we cannot be positive of a diagnosis until we find a physical sign. Paretic dementia is also to be distinguished from insanity following other toxic agents. Other organic brain diseases with psychical symptoms may also cause confusion, which can only be cleared up by a careful consideration of the preliminary history, and a thorough examination of the mental and physical condition of the patient. It must not be imagined that the detection of the disease is always of an easy nature. Atypical cases occur, and occasionally an immediate diagnosis is impossible.

To recapitulate, we have in paretic dementia a disease which in many cases can be diagnosed in the early stages by reference to the pupillary reflex, knee phenomena, other physical stigmata, and the characteristic developing dementia. A distinction should be made between cerebral syphilis, chronic alcoholic poisoning, the toxic insanities, other organic psychoses, and the simple mental diseases.

The influence of the antisyphilitic treatment in a tertiary syphilitic manifestation is still a matter of conjecture. In nervous syphilis it is by no means infallible. I have observed its effect in a series of syphilitic tabetic cases, and while at times I have noticed a decided tolerance of the drug and transient symptomatic improvement, I cannot say that I have ever seen any material benefit following its use. A similar condition is found in cases of paretic dementia wherein we have a clear luetic history. Specific treatment in these cases is thought to lessen the occurrence of seizures, but no permanent improvement has been noticed to follow energetic antisyphilitic treatment. I have employed this treatment in apparently the most favorable cases, but have never seen any material benefit follow. We are justified in concluding that in the tertiary syphilitic nervous diseases antisyphilitic treatment is often ineffective. While we know that symptomatic relief often follows this mode of treatment in tabes and dementia not of a specific origin, experience has taught us that these cases are few in number. In mental as in physical diseases, we often find improvement following a gain in nutrition. The treatment of acute insanities is largely a question of gain in weight. In the organic insanities this to an extent is also our main dependence. Organic insanity, like paretic dementia, is no exception to the rule. By surrounding such a patient with hygienic influences and improving his physical state, there often results improvement in mental condition.

Hydriatics is a welcome addition to the armamentarium of the hospital for the insane. By its judicious employment we have secured improvement in many cases. Aside from its general therapeutic value it has a remarkable tonic influence on the nervous system, which makes it a particularly valuable agent in nervous and mental cases. Advantage has been taken of this property in the treatment of paretic dementia, and by the use of the cold pack in these cases satisfactory effects have been obtained. The treatment is still in the experimental stage. Some results are certainly worthy of record. The treatment can be easily applied in practice outside of a hospital, and may be of signal benefit in the early stages of the disease. Not only is the treatment of value in cases of paretic dementia, but it possesses a value in those organic troubles complicated with insanity, which I have mentioned. Remembering that in the prodromal stage of paresis we have a nutritional disorder, it is not surprising that we should expect to obtain benefit by this treatment. Doctor G. W. Foster* concludes that the pack seems to act, (1) by skin stimulation; (2) lowered tone of vasoconstrictor nerves in the brain, producing passive congestion, while impaired metabolism is directly improved in this way; (3) by derivative effects of hyperemia of skin and upon internal organs; (4) vessel depletion, by sweating, with stimulation of absorbents; (5) relief of congested perivascular lymph spaces in the brain and their intercellular connecting channels, thus readily effecting brain nutrition. Most of his patients were in the later stages of the disease, and although he rightly reports no cures, he has on several occasions produced at least considerable improvement. During the past two years the cold pack has been used in the Eastern Michigan Asylum in the treatment of eleven cases of paretic dementia and three of cerebro-spinal syphilis. These were all male subjects. The technique has differed but little from that recommended by Doctor W. W. Godding. The essentials are as follows: (1) cold pack of a maximum duration of thirty minutes and of a temperature of from 55° to 70°, dependent upon reaction of patient; (2) application of cold to the head; (3) massage consisting of "rubbing and friction" immedately after pack; (4) administration of opium to the point of tolerance in cases wherein restlessness is present. In such cases the opium is often of decided benefit.

The treatment requires no elaborate apparatus, and can be easily applied outside of a hospital. The condition of the patient as regards reaction is to be borne in mind. If the reaction is not obtained, or if it be excessive, the treatment may have to be discontinued. The details can be easily taught. It is unnecessary to say that the treatment should always be given under the supervision of the physician or trained nurse, and in a systematic way, with appropriate observations.

An abstract of the results in our fourteen cases is as follows: (a) Ten cases were of over a year's duration, and only four under one year's duration at the beginning of treatment. (b) The average number of treatments was forty.

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* "Report of Government Hospital for the Insane," 1896.

Treatment was given at first daily. After fifteen or twenty applications one day was omitted between treatments. (c) Opium in increasing doses was given in nine cases. In one case fifteen grains was administered daily without constitutional disturbance. Opium is a valuable agent to combat restlessness. No bad effects were observed to follow its use. (d) Reaction was obtained in every case. No contraindications developed. (e) Symptomatic relief resulted in nine cases. (f) Every case, with one exception, showed a gain in weight when treatment was discontinued. (g) Of the fourteen cases seven have died, and of the remaining seven one has been discharged improved. Six remain in the asylum, and three are in a much improved condition. In two cases the progress of the disease seems to have been arrested, temporarily at least. The remaining three are still undergoing treatment.

Although these cases are perhaps too few in number for any definite conclusions, to any one acquainted with the steady advance of mental and physical deterioration in this disease, the results will appear sufficiently favorable to warrant a more extended trial.

It should be remembered that of the series of cases I have reported only a few were in the early stage of the disease. The results in these cases were favorable. In cases in the latter stages symptomatic relief followed where a previous medication by tonics and sedatives was ineffective. Naturally the question follows, if improvement results in some cases of such long duration, what benefit might be obtained by its adoption in its early or initial stage of the disease? The approval or disapproval of this depends largely on the physician not engaged in asylum work. Having made a correct diagnosis, and finding on account of opposition of friends and relatives that asylum treatment cannot be secured, he has the means of treating his patient in a simple and effective manner.

EPIDEMIC INFLUENZA.*

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THE term epidemic influenza, as commonly used, may include the local outbreaks of the disease, endemic influenza, and the widespread run of the disease known as pandemic influenza or la grippe; therefore a general consideration of the subject will include some consideration of each division just enumerated. However, for all practical purposes we may exclude at this time from special attention the pandemic form of the affection. The usual definition of the disease is: an acute infectious disease characterized by some form of pulmonary catarrh and great prostration. We have not time to go at length into its history. Suffice it to say that it has been recognized and described since about the year 1126, when it first invaded Europe, and since about 1550 it has figured quite extensively in medical literature. I believe it first made its appearance on this continent in the year 1600 and has remained with us more or less ever since. It might be mentioned in passing that the pandemic form has been rather irregular in its visitations, for intervals of from five to one hundred years between visitations have been noted.

Etiology.—Like all widespread infectious diseases influenza, until recent time, had been ascribed to the operation of some aerial poison, or miasma, but since the discovery by PFEIFFER of the influenza bacillus in 1892 its etiology has been essentially connected with the invasion and activity of that microorganism. This bacillus is capable of cultivation outside of the body on glycerine-agar and on blood where it forms in separate drops. Although PFEIFFER, BABES, and others, after having inoculated some of the lower animals with the microorganism or its cultures, have observed the usual signs and symptoms identical with the disease as occurring in the human being, still I believe a majority of observers are of the opinion that it cannot as yet be successfully inoculated; or, in other words, that it is not considered an inoculable disease so far as the human subject is concerned. It has been questioned also whether the microorganism known as Pfeiffer's bacillus is the one which produces the pandemic and endemic form of the disease alike, since some observers believe that the three forms of the disease in question represent different morphologic states of the influenza bacillus. It has also been questioned whether or not the pandemic disease attacking the domestic animals—commonly known as the epizootic—is produced by the influenza bacillus under consideration or by some other individual microorganism belonging to the same family or group. These intricate bacteriological problems need not detain us, as probably future investigations will soon settle the matter.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

In this connection we must not omit calling attention to the atmospheric vicissitudes which for a long time have been held to be an etiological factor at least. It is an undoubted fact that waves of influenza accompany or immediately follow marked climatic changes. Now, the question arises whether ozonic temperature or barometric changes influence the development or activity of these microorganisms or whether they simply alter the biochemic conditions of the defensive secretions belonging to the vulnerable respiratory tract. The answer to this question in either case, of course, must be theoretical. Some observers seek to explain the phenomena by one theory while others explain it by the other. It is the concensus of opinion, however, that the disease is contagio-infectious and not really miasmatic-infectious as was formerly believed. The reasons for these conclusions usually put forth are, the fact that the disease travels against prevailing winds. usually from the east to the west, and spreads mostly along the lines of travel and among aggregations of people; also that the disease prevails in warm climates as well as in cold climates, especially in the warm moist climates as well as the dry warm climates.

These observations would seem to effectually dispose of the idea that atmospheric vicissitudes contribute toward the production of the disease, if it were not for the fact that changes in temperature, direction of wind and humidity do mark the extension and intensity of prevailing epidemics of the disease from time to time, and the additional fact that tropical, subtropical and mountainous regions are like northern climates subject to the same atmospheric vicissitudes although in lesser degree. We may therefore reasonably infer that such exterior mutations either determine the activity of the erstwhile saprophytic bacillus or rob the pulmonary tract of its means of defense.

No age or condition of life seems to be absolutely exempt from attack, although young adolescents, the aged, and those living an indoor life seem to be most susceptible to the disease. Nursing infants are the least frequently attacked.

Pathology.—The operation of the microorganism is at first undoubtedly local, setting up a fermentation the result of which is the development of a soluble toxalbumin or toxin which, gaining access to the lymph vessels, becomes diffused and manifests its selective action on the nervous centers, notably the ganglionic.

The first local reaction is undoubtedly upon the peripheral sensory or trophic nerves of the nasal passages and upper pulmonary tract, producing at once vasomotor irritation, paresis, congestion, local cytosis, and exudation. The observations of PFEIFFER and other bacteriologists would seem to show, however, that the microorganism itself actually invades the blood independently of any toxin. But this may be considered as yet problematical because so many observers fail to discover the identical microorganism in the blood, and because the effect of the injection of cultures of the influenza bacillus into lower animals experimented upon produces the whole train of constitutional phenomena noted in the clinical history of the disease as observed upon the human subject.

For the production of the disease in the human subject, it seems necessary that the microorganism or its toxin should be introduced through the respiratory apparatus by inhalation, as its introduction either through the digestive tract, or skin, does not produce the disease. The exact rationale of the incipient steps of infection in the nose and throat is as inexplicable concerning this disease as in the case of diphtheria. For the question naturally arises why does nature allow of such a perturbation as the absorption of infectious material from a mucous surface whose physiological function is mainly excretory and not an absorptive or imbibing one?

Symptomatology.—The clinical symptoms belonging to influenza consist for the most part of coryza with its attendant sneezing, lachrymation, slight faucitis, bronchial catarrh, severe myalgia and inordinate vital prostration. Many speculations have been indulged in to account for the marked prostration which accompanies this disease. The general opinion, however, is that it is due to the effects of some toxin which is rapidly generated by the microbe and diffused in the blood.

The period of incubation is reckoned at from two to six days, although this is not an invariable rule. This point is very difficult of determination inasmuch as we do not know in the majority of instances just from whom, or when, the disease in a given individual was contracted; for instance, one member of a family only may show signs of the disease at a given time, and although the other members of the family subsequently contract it, yet it is difficult in most instances to really ascribe the origin of the malady in that family to the first member attacked because of the prevalence of so many other surrounding foci of contagion. Yet, I have known instances where I thought such a tracing could be made out with reasonable certainty.

In nearly all cases the disease is ushered in by a chill or chilliness, followed usually by a mild pyrexia. Exceptionally, however, the temperature may run very high. Cases have been reported, by many practitioners, of the temperature going as high as 106° and over. The temperature chart in cases of influenza, as we all know, shows great irregularities, there being no regular exacerbations and remissions. Defervescence in ordinary cases takes place in a few days when no complications supervene. The atypical cases of influenza are legion. In some cases the pulmonary catarrh is scarcely noticeable; in others the accession is marked by gastric irritation. Indeed in some seasons signs of gastro-intestinal irritation, such as vomiting and diarrhea, are the predominant symptoms. Again, the nervous system may bear the brunt of the disease and various neurotic and mental disorders will mark the progress of the disease. Again some endemics, especially in their beginning, are marked by tonsillar affections, especially acute follicular tonsillitis. This condition may be at certain times the predominant local manifestation. There are two symptoms, however, which usually attend the accession of all attacks, namely, undue prostration and myalgia. In connection with myalgia a striking sign also is hyperesthesia of the skin.

Complications.—The most common and dangerous complication of influenza is pneumonia, either catarrhal or lobar. In bad cases the lobar pneumonia is very dangerous and soon brings about a fatal issue. It is often a pneumonia fulminans. Other cases will be marked by the supervention of severe catarrhal pneumonia. This is very apt to occur in the aged; indeed it may be said in all truth that catarrhal pneumonia, if not the lobar, is liable to occur in individuals who neglect themselves and attempt to pursue their ordinary avocations during the earlier stage of the disease. The general poisoning is at times very complete. The subjects of it, although previously strong and healthy, may succumb in a few hours or a few days. We all know of such cases, especially during a siege of pandemic influenza; patients who have been stricken down to death within a day from the effects of toxemia. Diseases of the heart and kidneys may supervene in influenza. Persons who are the subjects of slight disease of the kidneys are usually apt to suffer from incurable Bright's disease after an attack of influenza. Endocarditis, pericarditis and pleuritis are not uncommon complications of the disease, also articular rheumatism, erysipelas and erythema nodosum may occur. Inflammations of the middle ear are also very common to some endemics, and oftentimes the ear disease constitutes the principal feature of the attack. It is unnecessary to say that after the disease has spent itself, continuous attention to the ears is necessary to relieve suppuration and prevent either chronic disease of the ear, mastoid cells or of the brain itself. Dangerous inflammation and suppuration of the nasal sinuses are of frequent occurrence in this disease.

Most of these serious complications are ushered in from three days to two weeks after the onset, and are often marked by a severe chill. Indeed when a prolonged chill occurs in the course of even a mild case, the practitioner should look upon it with alarm, for in eight cases out of ten it betokens some serious complication of one of the internal organs, and very often it indicates the accession of a lobar pneumonia.

Among the sequelæ of influenza there is nothing perhaps more common than pulmonary consumption. Clinical observation shows that without doubt a very large proportion of the cases of chronic broncho-pneumonitis, pleuro-pneumonia and the other forms of pulmonary consumption—which are not primarily tuberculosis—arise as a sequence of this disease. Psycho-neuropathies are likewise not uncommonly the sequence of influenza.

Diagnosis.—Influenza may sometimes simulate typhoid fever, common colds, rhinitis, follicular tonsillitis, cerebro-spinal meningitis and measles. When occurring in subjects who have been previously suffering from chronic disease of any organ the diagnosis may be a little difficult, as the acute and superimposed affection may show itself more particularly in the diseased organs or apparatus. It is very difficult to distinguish influenza in some endemics from common rhinitis and from follicular tonsillitis, and when measles or scarlet fever or cerebro-spinal meningitis are prevalent; also from either of these diseases. A common cold or acute rhinitis is not usually accompanied, however, by the same degree of prostration nor the same degree of myalgia that ushers in an attack of influenza. Undoubtedly many cases diagnosed as influenza are only "common colds," so to speak. With measles and scarlet fever, of course, a short time may have to elapse before a differential diagnosis can be made out. With regard to typhoid fever, when it is once established there need be no difficulty, but cases have been reported in which the rose-colored spots, dry tongue, diarrhea and evening exacerbation of temperature have accompanied the first few days' march of an influenza.

To make a certain differential diagnosis in obscure cases, CORONADO suggests that a drop of blood be drawn from the finger into a tube which is then closed with a little cotton and laid away for twenty-four hours. At the end of this time the blood has been converted into a culture of the diplo- and strepto-bacilli characteristic of la grippe—extremely motile and visible through an ordinary microscope of six hundred or seven hundred diameters. If there be a negative result repeat in forty-eight hours.

Prognosis.—The prognosis in uncomplicated cases is usually favorable. I think, however, that the practitioner is justified in keeping a close watch of every case during supposed convalescence, for at that time it will be found that many of the sequential and fatal diseases already mentioned may be taking their origin. It is not at all uncommon to meet with a clinical history which shows a development of endocarditis, pericarditis, pleuritis, phthisis pulmonalis, Bright's disease or insanity after a patient had been supposed to have gone through the period of convalescence.

Treatment.—The therapeutic indications in this, as in nearly all infectious diseases, are to assist nature in eliminating the poison; to modify the dangerous reactions which the ingress of the poison may generate; to sustain the vital and defensive powers, and if possible to avoid and combat all complications and sequelæ.

The first desideratum may be accomplished by the administration of diaphoretics, purgatives and diuretics. Among these, when it is well borne, perhaps calomel in small doses frequently repeated is the most efficient. Next to calomel may be ranked the saline cathartics, such as rochelle salts, sulphate of magnesia, et cetera. With regard to diuretics great care should be exercised in their use, because in all acute febrile diseases the kidneys are in a state of physiological congestion; therefore anything but a saline diuretic is contraindicated in the treatment of such conditions, lest the physiologic pass into a pathologic congestion.

Concerning stimulation of the emunctory function of the skin great care also is necessary, that is, in the administration of diaphoretics, for the fact must be kept in mind that almost all diaphoresis is of secondary occurrence, depending largely upon depression in some way of the cardiac and vasomotor centres. Therefore in any condition in which the system is overwhelmed with a disease poison, which itself is strongly inhibiting the action of the ganglionic nervous system, cardiac depressants of all sorts should be used with great care. However, if the temperature be well up no danger will follow the administration of a few doses of pilocarpine, tartar emetic, apomorphia and such agents for the purpose of bringing on diaphoresis. It is much safer, however, in all cases wherein such an effect is desired to rely upon the application of heat applied to the outside of the body, or steam baths, together with large drafts of diluents. The coal tar products, such as phenacetin and acetanilid, are very generally used in influenza, and undoubtedly are very potent in quieting the nervous perturbation of the patient and lowering the temperature, but as their effect—as you know—depends largely on their selective action upon the ganglionic centres, especially the cardiac, and their interference with hematosis, it is unnecessary to say that they should be administered with great care, especially in aged patients, while in no case should their use be given over to the patient himself.

Although we probably have no specific remedy against this prevalent disease, still we may rely with more or less confidence upon quinine, salol, salicin, salicylic acid, salicylate of soda, phosphorus and strychnia. It may be added in passing, however, that salophen given every two or three hours in seven or eight grain doses, has been highly extolled by some practitioners, and salipyrin by others has been considered both specific and prophylactic, for children especially, in doses of three to eight grains. Quinine alone or in combination with such adjuvants as hydrastin, leptandrin, capsicum, iodide of ammonia and salicylic acid are highly beneficial. Some preparation of belladonna is highly beneficial in the early stages. If the temperature keeps up notwithstanding that free catharsis or diaphoresis has taken place, the preferable remedy would be salol, given every two, three or four hours in three or five grain doses. This should be substituted when defervescence has occurred—especially if the disease shows a tendency to linger—by quinine, with one of the adjuvants mentioned, in doses of three to five grains every two, three or four hours. In connection with this, if the patient shows signs of vital depression, alcoholic stimulation should be judiciously used with or without strychnia or phosphorus, great care being taken not to overstimulate the patient. For the relief of pain, distressing cough, or diarrhea, opium in some form either alone or in connection with small doses of phenacetin will prove serviceable. Among the preparations of opium, Dover's powder and codeine will be found most efficacious. After the temperature range has gotten near to the normal point and there be no evidences of irritative disease of the cerebro-spinal nervous system strychnia and phosphorous will be found highly useful; in fact, in all cases wherein dangerous prostration manifests itself there can be no objection to the administration of strychnia or phosphorus, or both. The latter agent I usually order in solution in oil, in a capsule. Digitalis should be used for sustaining the heart's action when the practitioner is positive that no inflammatory disease of the heart exists. It, of course, as you know, would be highly objectionable in the early stages of endocarditis or pericarditis in the majority of cases. When the kidneys show some involvement as a sequel of the disease, saline diuretics with or without the salicylate of soda will be indicated.

The treatment of the various complications which may occur, will, of course, not be an appropriate subject for discussion in this paper as they will have to be treated upon general principles according to the judgment of the practitioner. The diet in influenza should be fluid or soft as a rule. When the gastro-intestinal disturbance is very great, of course peptonized liquid foods, et cetera, are the articles indicated and it may be necessary in such cases to resort to rectal alimentation so as to entirely relieve the stomach and small intestines from duty for awhile. This latter procedure is certainly far preferable to any attempt at nourishing the patient in the natural way when the stomach and small intestines are positively incapable of performing their functions. In such cases it is unnecessary to say that the leading therapeutic indications are to administer all medicaments hypodermatically.

It may not be out of place, perhaps, to read in conclusion the late EUGENE FIELD's poem, written just after his recovery from so-called la grippe:

The gods let slip that fiendish grip
Upon me last week Sunday.
No fiercer storm than racked my form
E'er swept the Bay of Fundy.
But now, good-bye
To drugs, says I,
Good-bye to gnawing sorrow.
I am up today,
And whoop, hooray,
I'm going out tomorrow.

What aches and pain in bones and brain
I had, I need not mention;
It seems to me such pangs must be
Old Satan's own invention.
Albeit I
Was sure I'd die,
The doctor reassured me;
And true enough,
With his vile stuff,
He ultimately cured me.

As there I lay in bed all day,
How fair outside looked to me.
A smile so mild old Nature smiled,
It seemed to warm clean through me.
In chastened mood
The scene I viewed,
Inventing, sadly solus,
Fantastic rhymes,
Between the times
I had to take a bolus.

Of quinine slugs and other drugs
I guess I took a million—
Such drugs as serve to set each nerve
To dancing a cotillion.
The doctors say
The only way
To rout the grip instanter
Is to pour in
All kinds of sin—
Similibus curanter.

'Twas hard, and yet I'll soon forget
Those ills and cures distressing;
One's future lies 'neath gorgeous skies
When one is convalescing.
So now, good-bye
To drugs, says I,
Good-bye, thou phantom Sorrow.
I am up today,
And whoop, hooray,
I'm going out tomorrow.

PNEUMONIA.*

By CLIFFORD KIRKPATRICK, M. D., ADRIAN, MICHIGAN.

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THE trite quotation "too much familiarity breeds contempt," is, through long usage, accepted as axiomatic; but, familiarity with the subject of this paper (pneumonia) instead of engendering contempt for the disease has only made me the more respectful to its awful power. When we contemplate the fact that pneumonia is fatal in from twenty to forty per cent. of those afflicted, and that after the age of sixty-five over ninety per cent. of deaths from acute disease is attributable to its ravages, we can well approach its presence with bated breath, and I feel no apology is necessary for introducing so commonplace a subject.

We are told by OSLER that pneumonia is a self-limiting disease and runs its course uninfluenced in any way by medicine. It can neither be aborted nor cut short by any means at our command. Even under the most unfavorable circumstances it will terminate abruptly and naturally without a dose of medicine having been administered. He places the mortality at from twenty to forty per cent.

The lamented AUSTIN FLINT states that pneumonia belongs among the diseases designated as self-limited. If uncomplicated and not attended by accidents it runs a definite course ending in restoration, providing the powers of life hold out.

PEPPER says that "where uncomplicated, and occurring at certain periods and under certain conditions of life, it will terminate spontaneously in recovery."

In regard to the causation of pneumonia there has been a wonderful change of opinion in the last decade. The more advanced clinicians of today almost universally regard pneumonia as a specific infectious disease. BOUCHARD, in his "Autointoxication in Disease," says: "The interpretation of infection has provoked the warmest discussion in our times; the brilliancy of certain recent discoveries has served to fascinate and dazzel. It has caused according to temperament, enthusiasm or sarcasm, infatuation or dread. Infatuation or dread—these are two sentiments which science repudiates."

The diplococcus pneumoniæ of FRAENKEL is believed by many competent observers to be the specific agent of the disease, and it can scarcely be doubted that it is sometimes an exciting cause, yet we find it in the saliva of about twenty per cent. of the healthy people, proving that it is a concomitant instead of a pathognomonic sign. Practically the same may be said of FRIEDLANDER'S coccus. The Pio Foa's coccus has thus far been found only in the tissue juice of the pneumonic lung. Therefore, while the presence of a pneumococcus in the sputum is not proof positive of pneumonia its absence argues strongly against such a diagnosis.

Whatever the cause of the disease may be its victims are most frequently among those who are advanced in years, and PEPPER states that "among the predisposing causes age ranks first." It is more frequently encountered among men than women until after the age of sixty has been reached, and then, as in infancy, sex has but small limiting power in the division of cases. Enervating habits, poverty and its accompanying unhygienic surroundings, chronic nervous diseases, the acute infectious diseases, are all ranked as predisposing causes, with alcoholism as a prime factor. Anything depressing the vitality may tend toward this disease. One attack predisposes to another. As many as twenty-eight attacks have been noted in one individual. If we accept as a fact the pneumococcic causation of pneumonia, what are we to do with those cases following traumatism which are so frequent. We all know how carefully we watch the condition of the lungs after a fracture of the hip-joint in the aged.

It is not necessary to consider here the morbid anatomy and diagnosis of pneumonia. Physical diagnosis and acoustics have been developed to such an extent that doubt should be eliminated in a diagnosis of this disease.

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*Read before the NORTHERN TRISTATE MEDICAL ASSOCIATION at its Hillsdale meeting.

The symptoms of pneumonia are familiar to all. Occasionally there is some prodroma, varying from a few hours to one or two days, but usually cases are ushered in by a distinct chill. The patient retires in apparently good health to be awakened in the night by a chill which may last from fifteen or twenty minutes to two or even three hours. The preponderance of cases beginning with such chills has, by different observers, been variously estimated to be from seventy-seven to ninety-two per cent. With an initial chill, pain in the side (usually under the nipple of the side affected) and an increase in the temperature and pulse rate, pneumonia may fairly be presumed, even before the more characteristic physical symptoms have developed. Soon the countenance becomes dull or anxious, the respirations are shallow, and on account of the pain, as much suppressed as possible, and there is a resulting cyanosis. The acceleration of the respiration is not in proportion to the amount of lung tissue involved, but seems to be due to a peculiar condition of the nervous system, or to a poison acting on the nerve centers. The pulse becomes rapid and feeble, waves and then true intermissions ensue, delirium supervenes, the lividity and dyspnea increase and the asthenia is rapidly followed by death, due either directly or indirectly to heart failure.

If we consider briefly the phenomena of respiration we find that atmospheric air contains, roughly estimated, one part of oxygen to four of nitrogen by volume, together with a small amount of carbonic acid, and that in respiration the air loses in oxygen and gains in carbonic acid. The healthy adult consumes normally in twenty-four hours about one hundred and twenty-five gallons of oxygen and exhales about one hundred gallons of carbonic acid. On diminishing the relative proportion of oxygen in the inspired air, drowsiness supervenes, and if the abstraction of oxygen and increase of carbonic acid be continued, insensibility and death must ultimately follow. The color of the blood is controlled by the amount of oxygen it contains and not by the carbonic acid. The absorption of oxygen is dependent on the blood globules, and it is stated that one gramme of hemoglobin in solution will absorb more than one cubic centimetre of oxygen.

In pneumonia we have an impaired lung, incapable of performing its function. In proportion to the area involved we have diminution in the supply of oxygen, and as a corollary an increase in the rapidity of the heart's action in a vain effort to increase the supply. The blood becomes surcharged with carbonic acid, which acts as a poison on the nerve centers. The impaired lung retards the passage of the blood through the pulmonary circulation and it is dammed back on the right heart. Argue as you may the symptoms preceding death are such as are directly attributable to an insufficient supply of oxygen plus the effect of carbonic acid poisoning. With such existing conditions, the obvious indications imperatively demand an increase in the deficient supply of oxygen and the elimination of the accumulated carbonic acid.

Every effort should be made to sustain the powers of life. **Flint** states that "resolution will be sure to begin and continue if the life of the patient be sufficiently prolonged."

In oxygen we have a remedy that would seem to be of incalculable value after the first stage, and although it is not admitted to the "United States Pharmacopeia" it is probably "a sheet anchor" in the treatment of pneumonia. The inhalation of it is quickly followed by improvement in the pulse; the intermissions cease, the pulse waves diminish and the lessening of cyanosis is almost magical. Under its administration I have seen the most marked improvement. In one case, a girl of nineteen (whom I saw in consultation) had consolidation of the entire right lung and was apparently moribund, the extremities to the knees and elbows were purple, while the pulse at the wrist could not be felt and nail stroking gave no response. Under the inhalation of oxygen (directly from the bag) all the distressing symptoms disappeared and steady and rapid recovery took place, though the same treatment was continued under which, prior to the use of oxygen, the patient had been rapidly sinking.

I could give many instances in my own practice wherein benefit has been as marked and positive as in the above case, but will not burden you with them here, and will only cite one case reported in *The Boston Medical and Surgical Journal* and quoted by SHOEMAKER: "The patient was a lady aged thirty-seven, of neurotic tendencies, who suffered at first with ordinary lobar pneumonia of the base of the right lung. The general symptoms were very strongly marked, and after the first few days of ordinary treatment the disease spread to the upper part of the same lung, and alarming and excessive dyspnea set in rather rapidly. Energetic stimulation and counterirritation appeared to relieve the condition to some extent, but it recurred and showed itself less amenable to treatment. Inhalations of oxygen were given, the gas being simply conducted to the patient's mouth after having passed through a wash-bottle and diluted with ten per cent. of nitrous oxide. Very decided relief was given for a short time, but again and again the dyspnea returned, each time being staved off by the inhalation. At last it became necessary to keep up constant inhalation. The supply of gas began to fail, and before a fresh store could be obtained the patient was moribund. The gas was then given by artificial respiration, and the patient rallied once more. Constant inhalation was then kept up for one hundred and six hours without intermission, and at the end of that time the breathing was easy and natural, and complete recovery followed without incident."

I would not underestimate the value of rational medication, and am fully alive to the great benefit derived from the use of strychnia, and of the necessity of using either morphine or codeine enough to control the accompanying pain in the first stages. Phlebotomy in properly selected cases will produce at times wonderful results, although the use of a brisk saline cathartic, while not as prompt, is usually as efficacious. The application of cold to the chest relieves the pain by obtunding the sensibility. It prevents a determination of blood to the part and diminishes the superficial circulation to the detriment of that of the internal organs. The application of warmth acts as a revulsive and with me has been of far more utility than the use of cold. It is questionable if the use of cardiac stimulants is judicious, as the left heart is not overloaded, and increase in the force and frequency of the heart's action only forces the more blood into an already surcharged lung. Complete transudation being impossible, it is dammed back upon an already overloaded and weakened right heart, and by this means it may become its own executioner.

MONSTROSITIES AND MALFORMATIONS: ARE THEY OF IMPORTANCE TO THE GENERAL PRACTITIONER?*

BY N. L. ANDRUS, M. D., GRAND RAPIDS, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

WE are living in the presence of a great mystery. All about us miracles are being performed and we heed them not until something unusual or out of the ordinary attracts our attention to them. As we learn more from our mistakes than from our successes, so perhaps we shall come nearer to understanding the great creative force at work in the development and unfolding of the embryo into the perfect representation of the parent form from which it sprang by studying nature's deviations from the ordinary and usual—by studying her imperfections rather than her perfections.

EDMUND B. WILLSON, Professor of Invertebrate Zoology in Columbian University, in the closing chapter of his book—"The Cell in Development and Inheritance"—says: "We have now arrived at the fartherest outposts of research, and here we find ourselves confronted with the same unsolved problems before which the investigators of evolution have made a halt. For we must now inquire what is the guiding principle of embryological development that correlates its complex phenomena and directs them to a definite end. However we conceive the special mechanism of development, we cannot escape the conclusion that the power behind it is involved in the structure of the germ-plasm inherited from foregoing generations. What is the nature of this structure and how has it been acquired? To the first of these questions we have as yet no certain answer. The second question is merely the general problem of evolution started from the standpoint of the cell theory." Further, he says: "The truth is that an explanation of development is at present beyond our reach. The controversy between preformation and epigenesis has now arrived at a stage where it has little meaning apart from the general problem of physical causality. What we know is that a specific kind of living substance, derived from the parent, tends to run through a specific cycle of changes during which it transforms itself into a body like that of which it formed a part; and we are able to study with greater or less precision the mechanism by which that transformation is effected and the conditions under which it takes place. But despite all our theories we know no more how the properties of the idioplasm involve the properties of the adult body than we know how the properties of hydrogen and oxygen involve those of water. So long as the chemist and physicist are unable to solve so simple a problem of physical causality as this, the embryologist may well be content to reserve his judgment on a problem a hundred fold more complex." In the presence of so high an authority it would be folly for us to undertake the solution of the question as to the cause of or the reason for monstrosities and malformations. I only introduce the subject with the hope that a profitable and instructive discussion may follow from the older and more experienced members of the academy.

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*Read before the GRAND RAPIDS ACADEMY OF MEDICINE.

Nonviable monstrosities, like the photograph which I shall show you, may have no particular value to us as general practitioners, excepting as it might be of such a nature as to obstruct labor and as they serve to direct our attention to internal malformations which may be equally as incompatible with life as the external ones. It is a popular belief among the laity that these deformities may in some way be traced to maternal impressions received during gestation and reflected to the embryo in utero; and physicians of good reputation and scientific attainments incline to this belief.

In *The New York Medical Journal* for January 10, 1891, under the heading, "Proceedings of Societies," is the report of an acranial monstrosity, reported to the Section on Pediatrics of the New York Academy, at its meeting of December 11, 1890, which is as follows: "DOCTOR WATSON exhibited a recently born infant in which the cranial bones were entirely absent, as was also the brain. Whatever soft parts were present were being supported by the bones of the face. The case was interesting as it was the second child to which the mother had given birth with the same deformity. When pregnant with the first one she had spent a great deal of time watching the antics of the monkeys at Central Park. During the second pregnancy she had staid away from New York but her mind had evidently dwelt on the first mishap." This conclusion as to the cause of the deformity seems to have been accepted by the society, as no comment or discussion followed.

In *The New Zealand Medical Journal* for April, 1892, THOMAS relates a peculiar instance which he attributes to heredity: "A woman was the mother of five children, and they all died a few days after birth, icterus being the only discoverable disease in all of them. After the death of the last one an autopsy was allowed and it was found that both ductus communis and the cystic duct were impervious cords. The gall-bladder contained bile but there was no canal by which it could get out. The conjecture is a reasonable one that the same condition obtained with each of the other children, as each suffered with fatal jaundice lasting only a few days."

In my practice I have atttended a young woman with her first two children, both of which died in a few hours after birth; both children evidently died from some abnormal condition of the heart, as circulation and respiration were never fully established. The second child had denuded patches on both the upper and lower extremities looking as though the skin had been arrested in its development. I learn from a sister that this woman has recently given birth to a third child which died soon after birth, similar to the other two children. I know a brother and sister living in the southern part of this state in whose family for several generations there has been a peculiar deformity of the hands, appearing in one or more members of each descendant of the family, affecting the girls in the female descendants and the boys in the male descendants.

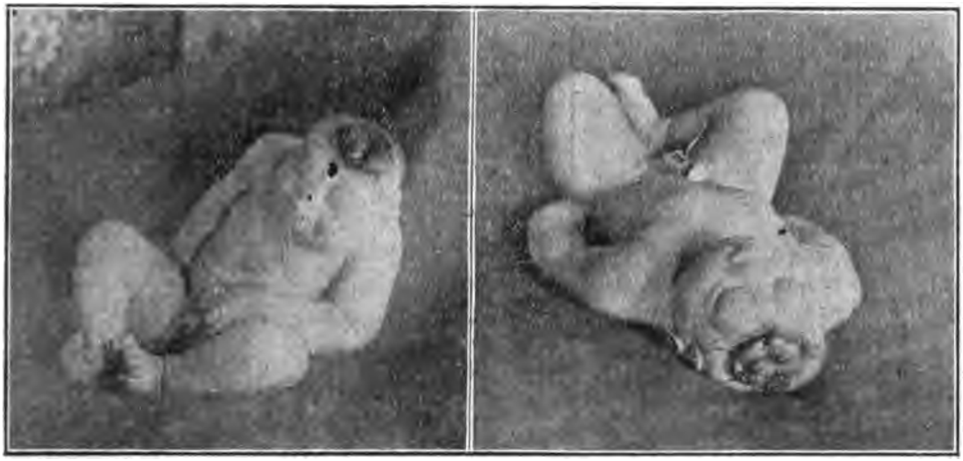
And why should not heredity play a part in malformations, as well as in the cell structure of the body? We recognize idiosyncrasies, a diathesis to certain diseases, inherited tendencies to mental and nervous diseases, which is but an inheritance of the cell structures of the body; while maternal influences may and probably do have an important place in the development of the embryo, we must not overlook the fact that paternal influences are also at work. HUXLEY says, in "Evolution in Science and Culture." "It is conceivable and even probable that every part of the adult contains molecules derived both from the male and from the female parent and that regarded as a mass of molecules the entire organism may be compared to a web of which the warp is derived from the female and the woof from the male." Besides the part which inheritance has in the cause of malformations there are other causes which may be responsible for them, such as external or internal accidents causing an arrest of growth or changing a normal one into an abnormal one.

In "Sajou's Annual for 1893," Section K, "Diseases of the Bones in the Newborn," the editor makes this reference: "To the causes and treatment of diseases and deformities of the bone structures in the newborn, CHURCHILL very justly remarks that an increase of intrauterine pressure upon the fetus, while hindering the growth and development of the joints, must be also the primary cause of clubfoot. The harmful pressure is not always due to deficiency of liquor amnii; there may also be reflex irritation of the uterine branches of the hypogastric plexus, causing spasmodic contraction or increased tension in the uterine muscle and consequent restriction or interference with the movements of the fetus during its development."

In *The New York Medical Journal* for December 14, 1889, there is the full report of a paper entitled "Congenital Absence of Five Ribs, with Resulting Deformity," which was read before the American Orthopedic Association, September 19, 1889, by DOCTOR HOMER GAGE, of Worcester, Massachusetts. In reporting the case, DOCTOR GAGE says: "While pregnant, her mother fell down stairs injuring her side, but had never attached any significance to the injury. The absence of part of the bony wall of the thorax on the left side was noticed at birth."

So we might find scores of cases reported in medical literature covering every region of the body and including the internal organs and viscera. If these observable malformations and deformities serve to direct our attention to the obscure and unnoticeable anomalies which may, and oftentimes do exist, and which may sometimes be the cause of a fatal termination in the medical or surgical treatment of diseases, then do they become of the greatest importance to us as general practitioners.

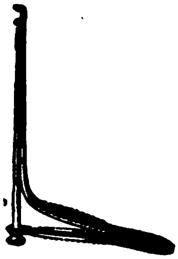
On March 18, I was called to attend MRS. O. in her second confinement. I reached her bedside at 5 o'clock P. M. and found labor advanced to the second stage, membranes ruptured and presenting part engaged in the superior strait, but instead of the hard vertex presentation I could feel a soft pulpy mass which I concluded might be a breech presentation. As I passed my hand up by the side of the presenting part to ascertain more definitely the position of the child I could feel the ear. Passing my hand to the anterior under the pubes I could feel the protruding brows, the nose, the mouth and to the other side the ear again; so I was able to definitely determine the birth of a deformed child at my first examination. At 7 P. M. the patient was delivered of this acranial monstrosity, which was alive and not alive. It made no noise that could be likened to a cry, and its breathing was an irregular, spasmodic respiration. There was no muscular contraction and no effort to swallow, although it continued its irregular respiration for sixty-seven hours after birth. The mother is Irish, aged nineteen years, healthy, with no history of tuberculosis, scrofula, cancer, or syphilis in her family. During the whole term of pregnancy the woman was well and comfortable. She had no remembrance of a fall or fright or anything which might account for the deformity. She is the mother of one child three years old, a bright, well-formed, healthy boy. The father is German, aged thirty years, healthy and strong, with the same negative history as the mother. This child is the first deformity of any kind ever known in their family.



A MALLEUS EXTRACTOR.*

By EMIL AMBERG, M. D., DETROIT, MICHIGAN.

THE peculiarity of this instrument is that the bent end of one branch is movable in two directions. When the instrument is at rest it stays at an angle of about forty-five degrees to the bent end of the other branch. In closing it takes a turn of about forty-five degrees, so that, closed, the two bent ends stand in the same direction. The operator can carry a part of the instrument behind the ossicle like a hook and the view is not obstructed.



Other instruments are described as follows:

(1) A modified forceps for sponging when performing mastoid operations.

(2) A sharp spoon for mastoid operations. The handle is broadened so as to give the thumb a rest.

(3) A metal tip for massage apparatus.

(4) A head mirror with a large hole, intended to be used in changing mastoid dressings. It can also be used in throat work, but here the large opening is not quite so advantageous, because there is some loss of reflected light from the center of the mirror and the operator's eye is not so much protected when the patient coughs.

*Part of a paper read at the Kalamazoo meeting of the MICHIGAN STATE MEDICAL SOCIETY.

(5) A case for ear instruments for daily use. This case gives a clear idea how ear instruments can be properly carried. It contains three metallic boxes seven and one-fourth inches long, a little over two inches high, and about two inches wide. Two of the boxes allow quite a number of ear instruments to be carried in an aseptic condition; two small boxes are intended for used specula. Those two boxes could be combined in one for longer instruments which have been used. The third of the larger boxes serves, first, as a sterilizer. It contains two transportable alcohol lamps. It took eight and one-half minutes to bring ten ounces of water to boiling. After the water boiled for one-half hour three and three-fourths ounces were left. Secondly, it serves to carry three boxes, two inches high, less than two inches long, and about one and one-fourth inches wide, for sterilized cotton, etc. Those three larger boxes are kept in another metal box. Surgeons have their own likes and dislikes about instruments. The kind of cases described might serve better than cases which allow just a certain kind of instrument to be carried.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, FEBRUARY 3, 1899.

THE PRESIDENT, CHARLES DOUGLAS, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR ERNEST L. SHURLY read a paper entitled "Epidemic Influenza." (See page 274.)

DOCTOR HARTZ: This society should be grateful to DOCTOR SHURLY for the complete and concise paper, which embodies the latest views of the best bacteriologists, pathologists and clinicians of the world. In the serious sequelæ which often follow an acute attack of influenza we must recognize the Pfeiffer bacillus as an insidious form, the toxin of which is capable of producing not only sudden death, but also chronic diseases lasting months or years. The Pfeiffer bacillus is positively the specific cause and is frequently accompanied by the strepto- and staphylococcus. It is therefore a contagious disease and the sputum and other discharges should be destroyed as is done in tuberculosis. The differential diagnosis is difficult, almost impossible except by the prolonged and prostrating effect of the toxin, but we can depend upon the method advocated by PFEIFFER for finding the bacillus, which could be done by the Board of Health just as is done in diphtheria. Thus only can we reach an early and positive diagnosis. Owing to the immunity of most animals to the influenza germ, the laboratory experiments for producing a protective and curative serum is rendered difficult. The monkey only responds to infection; they are expensive, and it is extremely rare that they procreate, as DOCTOR SHURLY has found out, so that it may be a long time that we will be dependent upon purely symptomatic treatment for the disease.

DOCTOR EMIL AMBERG: DOCTOR SHURLY called, in his paper, attention to the involvement of the ear in influenza. The complication from this side plays an important part in the disease. BLAU, in a recent publication, gives an extensive report based on his own experience and on the experiences laid down in about one hundred publications on this subject. In the ear clinic in Halle, in December, 1888, and January, 1889, forty-four cases of acute otitis media have been observed. In the same months in 1889 and 1890, during a siege of influenza, 137. **Gruber**, of Vienna, saw, in the same months, 238, 625. **Jansen**, in Lucae's ear clinic in Berlin, saw, in the same periods, 139, 324. **Politzer** says that he saw four times as many cases of acute inflammation of the middle ear during the prevalence of la grippe as during the same time in earlier years. The time when the ear is involved varies. The ear can be the first part affected. Otitis can start in the first days or first weeks of influenza or after the influenza has disappeared. **Hessler** reports twenty-seven cases in the early stages of influenza and twenty cases in later stages. **Blau** observed forty cases in the early stages and twenty-nine cases in late stages. Concerning the specific bacillus it is reported that **Scheibe** described a bacillus in the ear before **Pfeiffer** and **Kitisato** did. He found a bacillus about 0.5 μ thick and 1.6—2.0 μ long with round or sharp ends. They lie in irregular groups, parallel or in sharp angles one to another. Soon afterward appear the diplococcus pneumoniæ, the streptococcus pyogenes and the staphylococcus albus in the ear. The opinion exists that the infection by the influenza bacillus probably takes place through the blood, the after infection by the other microbes through the Eustachian tube. There seem to be some points more or less characteristic of the ear infection after influenza. First, the exceedingly prominent subjective symptoms compared with the subjective appearances. The otitis media influenzalis can be very severe. Further, there has been much said about the hemorrhagic form of an otitis which is regarded by some as characteristic of the influenza otitis. The late **Professor Lemcke** was a strong defendant of this idea. However, this point seems not quite settled. The hemorrhages are thought to be caused by thrombosis in and necrosis of the capillary vessels. In consequence of hemorrhages in the membrana tympani, the latter can even show the appearance of a panther skin. Affection of the mastoid is apparently more frequent after an otitis media influenzalis than otherwise. In 1874, **J. Orne Green**, of Boston, had to open the mastoid after an otitis media influenzalis of two months' standing, and there is quite a literature upon this subject. The mastoid complication can start immediately or later. The mastoid can also be diseased primarily. The mastoiditis after the influenza is sometimes characterized by the quick and heavy destruction of the bone. **Schwartze** found in a mastoiditis of nine days duration three pieces of dead bone in the mastoid, the posterior cranial fossa laid open, and granulations on the dura. **Koener** calls attention to forms in which the posterior part of the tip is first involved. The thus diseased mastoid is a very great danger for the neighboring parts. There can be affections of the dura, of the lateral sinus; meningitis, extradural abscesses, brain abscesses, et cetera, can follow. The process can spread along the carotis or along the acoustic nerve, et cetera. **Jansen** reports that he found subdural abcesses in half the cases of mastoiditis after influenza. There have been reported many cases of neuralgic affections of part of the ear. I think we must be a little careful with the diagnosis of a neuralgia. **Spira** reported a case which showed for many months the picture of neuralgia of the fifth. At last the real cause of pain was discovered to be a central ostitis of the mastoid bone. We see influenza is an important factor in ear diseases. One author even says that in influenza the pneumonia is the main cause for death, and then, that second, ranks the affection of the ear with its complications in connection with the troubles starting from the frontal sinus. The otitis media after influenza is just as grave as the otitis media after scarlet fever, pneumonia, et cetera.

Doctor Richardson: I desire to ask **Doctor Shurly** if the temperature is considered to be a measure of the severity of the disease, and if the temperature has very much influence on the progress.

Doctor Newman: I want to thank **Doctor Shurly** for his valuable and interesting paper. I think a good many of us have been in the habit of considering this epidemic, which we are passing through now, as not true influenza, and I was not aware that the particular microorganism which is the cause of the trouble had been demonstrated in this epidemic. My first experience with the influenza was in 1889 and 1890, when I believe we considered it a disease which ran in very wide cycles, visiting the country at long periods. Certainly the disease which appeared then was very little like the disease we have now. Then we had in all the cases the typical nervous depression which DOCTOR SHURLY speaks of, and practically now we do not have any such condition. We have a certain amount of follicular tonsillitis for the most part accompanied by coryza, pains in the limbs and various parts of the body. With proper care very few of the sequelæ and complications arise. The disease, generally speaking, is mild and exhausts itself in a few days.

DOCTOR COLLINS: I would like to ask DOCTOR SHURLY his opinion in regard to thoroughly disinfecting the nasal passage in the commencement of the disease. I have used an antiseptic douche in the early stage and prevented infection of the ear through the Eustachian tubes. In regard to DOCTOR HARTZ's recommendation that a laboratory be established, it seems to me that there are too many cases, and the cases are of too short duration. If it be true that the germ can be found six months before and three months after an attack of the epidemic, the discovery of the microorganism would have very little diagnostic value.

DOCTOR FLINTERMANN: This subject of influenza is an important one. As mentioned by DOCTOR HARTZ, a bacteriological diagnosis should be made, and I think it is the duty of our colleges and hospitals to examine such cases thoroughly and publish to the profession notes of the disease which occur in the city and state. I think there is hardly any doubt that the disease is infectious because it is all over the world, and everywhere the same symptoms occur as we had ten years ago. The symptoms at the present time are not as serious as they were at that time. That can be explained by the fact that a great many who suffer now went through the disease ten years ago and they are now partly immunized. There are occasional cases at the present time which are very serious. DOCTOR SHURLY has not said anything about the prevention of the disease. I think the disease can be prevented. It has been observed in the epidemic in France that the people who first were taken down sick were such people as were agents of transportation. So it shows that there is a certain medium by which the disease is carried into the system of the people. The Board of Health in Chicago has gone so far as to publish rules showing how people can protect themselves from being infected, such as cleanliness, proper attention to the laws of health, and keeping away from those who are suffering from the disease. What interested me the most was that the people seldom call in a physician. They go to the drug store and buy quinine and whisky. Quinine is a very dangerous drug to administer. I recall a case of a lady who had a severe attack of la grippe. I was called in to see her. She claimed to suffer from headache. She had taken rheumatism tablets and was afflicted with belladonna poisoning, the pupils being dilated and the woman in collapse. As far as the treatment of la grippe is concerned, I give as little medicine as possible. I insist upon the patient going to bed. I believe that the so-called coal tar preparations are the most dangerous agents that can be administered in this condition. The most dangerous sequellæ to an attack of influenza are the nervous affections. More patients suffer from depletion of nervous vitality than from all other sequellæ combined. A large number of the patients who come to our asylums have been victims of influenza.

DOCTOR D. PARKER: There is one point in particular which ought to be fixed in our minds. That is the use of the coal tar preparations. They have practically become domestic remedies nowadays. They are given often before the physician is called. I remember that DOCTOR SOLIS COHEN said there is no doubt that coal tar preparations will relieve pain—so will a blow on the head with a club. As regards irrigation of the nasal passages, I have used it satisfactorily. Antiseptic washes are very serviceable. I have used listerine by inhalation through the mouth, directing my patient to exhale it through the nostril. In that way both passages are cleansed. I read recently in a paper that the great prevalence of appendicitis was due to the gastro-intestinal irritations following la grippe.

Doctor George Campbell: If a patient is seen early, a few doses of one of the coal tar preparations will give great relief. I do not endorse the plan of giving the coal tar products for lengthened periods and in large doses. I have found a number of cases of the gastro-intestinal type of la grippe. I think I can trace two cases of appendicitis from la grippe. **Doctor Shurly**, in his remarks, did not mention the kidneys. I believe most authorities agree that the urine is very acid and of very high specific gravity in this disease. **Osler** says that in postmortem he has found all the organs affected but the kidneys.

Doctor Hislop: **Doctor Shurly** has presented a very valuable paper on this subject. He has covered the ground of treatment very thoroughly. I agree perfectly with what he says in regard to the secondary affections following la grippe. The sequellæ are the most dangerous parts of the disease, and one condition which we should always look for is the heart weakness. The speakers have said that the disease is not as severe as it was in 1889. I have seen cases this year that I believe were quite as severe as any I saw at that time. In the gastro-intestinal type of the disease there is anorexia and considerable trouble with the bowels. The treatment of these cases demands quietness and liquid food given often and in small quantities. When I am called to see a case with pain about the neck and shoulders, I give phenacetin, codeine and salicylate of quinine. I would be very sorry to discard phenacetin. Antipyrin I regard as the next most efficient coal tar preparation. Acetanilid I would discard altogether.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, APRIL 11, 1899.

The President, FREDERICK W. ROBBINS, M. D., in the Chair.
Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Irwin H. Neff, of Pontiac read a paper entitled "Diagnosis and Treatment of Paretic Dementia." (See page 270.)

Doctor Hitchcock: I am sure there is no one but will welcome any treatment that promises help for such a terrible disease. I have noticed that certain physical conditions change the course of the disease. **Doctor C. B. Burr** reported that traumatism, the result of sloughs, seemed to have some effect. The simplicity and lack of expense ought to commend the cold pack treatment. I should caution against the treatment without professional oversight, since some bad effects have been noted. Paretic dementia is not always easy to diagnose. I remember a case which **Doctor Emerson** and I have seen several times, and yet even now the diagnosis is not clear because the symptoms are not typical. Syphilis seems to act in developing atypical forms.

Doctor Emerson: I have been much interested especially in what was said of the therapeusis. We all are oppressed with the unfavorable prognosis, and have all looked for a treatment that would give a little more encouragement. I have seen cases that lasted longer than the usual time, yet they finally died of the disease. In regard to differential diagnosis sixty per cent. of the cases are luetic. The question is where to draw the line between cerebral syphilis and paresis. It may be a gross lesion, it may be there is a classical history, yet some unusual factors present. Some take the paretic path but are atypical, DOCTOR INGLIS: DOCTOR NEFF's paper is valuable and suggestive. The early diagnosis of general paresis must necessarily be done by the general practitioner if done at all; the specialist does not see the patient until the group of symptoms is well pronounced. Yet it is at the early period of the disease when, if ever, therapeutic measures are likely to do good. DOCTOR NEFF lays stress on the early notice of pupillary changes and the alterations of the patellar reflex as being the first signs of general paresis. I would add that all sorts of transient affections which suggest a localized brain trouble ought to put the attending physician on his guard. A defect in the patient's speech, a slight aphasia which soon passes off, a transient confusion of words, a defect in motion or sensation of face or arm which comes and goes ought to set in motion a careful study of the patient's mental condition. It will often be found that there is a letting down of the patient's habits, ideals and activities. If so, a probable although guarded diagnosis of impending paresis should set the physician at appropriate treatment and the necessary regulation of the patient's work, habits, and affairs. As for the distinction between syphilitic cortical lesion and paretic dementia, it is useless to claim to draw exact lines. A large proportion, as DOCTOR NEFF says, of cases of paretic dementia are of syphilitic causation; this being so, to attempt to draw a hard and fast distinction between paretic dementia and syphilitic organic defect is an unnecessary requirement. There are, indeed, cases in which syphilis plays so great a part and the usual concomitant causes so small a part that we can fairly make a distinction, and say that we have a syphilitic cortical lesion. As far as ultimate results are concerned I doubt if there is much difference whether we have to deal with one or other. In the ordinary form of general paresis the connective tissue formation and brain cell atrophy seem to go in more steadily from the outset. In the more distinctly syphilitic lesions remissions are apt to be more pronounced. apparently because the blood-vessels are primarily attacked. One can give a more hopeful prospect of some considerable remission in such cases. It is of course better for the physician to give a prognosis which tallies as closely as may be with the course of the case. In the end, however, the syphilitic case is pretty certain to end up by cortical atrophy and the usual dementia and paresis. DOCTOR NEFF has done an excellent service in calling our attention to the decided benefit to be gained from the cold pack. It is interesting to note that in doing so he is bringing us back to the old and ever new fact of the value of tonic treatment. All said and done, we come back to the fundamental problem: We win most of our successes by helping damaged tissues and organs to regain function by improving their nutrition. The recent stress of treatment in locomotor ataxia is, in plain terms, thorough going use of tonic measures. The cold pack in general paresis is simply an excellent tonic measure. The plan is good theoretically and I am glad to learn from DOCTOR NEFF that it is good practically. DOCTOR NEFF's cases are most unfavorable ones to begin on. In the light of his paper a thorough use of the cold pack by the general practitioner in cases in which he suspects early dementia ought to furnish some much better results.

DOCTOR ROBBINS: What is the method of using the cold pack and why is it used in preference to the graduated cold bath?

DOCTOR NEFF: DOCTOR INGLIS and DOCTOR EMERSON have both mentioned good points between syphilis of the brain and paresis, yet there is a distinction between the two. In some cases the diagnosis is easy. The transitory symptoms are more common in cerebral syphilis. Such cases show themselves by physical signs, hemiplegia, strabismus, aphasia. In regard to antisyphilitic treatment we use Gowers' plan—mercurials and inunctions with potassium iodide—and give periods of intermission. The cold pack is more convenient than the graduated cold bath. The pack is easier to use. Put the patient in sheets wrung from cold water and leave him in thirty minutes. We have had reactions in but one case where the pack was used for restlessness. The pulse dropped to 55 and temperature to 95°.

EDITORIAL ARTICLES.

MICHIGAN'S NEW MEDICAL LAW.

After a long series of fruitless efforts and disappointed hopes, a much cherished philanthropic ambition has been, in part, realized in Michigan. The charitable endeavors of the medical fraternity in behalf of such legislation as would annihilate the incompetent and fraudulent practice of medicine, although time and again mistaken for exhibitions of selfish motives and greedy desires, have finally resulted in the enactment of what is known as the Chandler bill. This act, the full text of which will be found on other pages of this issue, notwithstanding its somewhat compromising character, is so decidedly amendatory of the rank abuses fostered under our old law that the heartiest congratulations are due the people, and unstinted praise to those who labored in its behalf.

The essential features of this law consist in the appointment of a State Board of Registration in Medicine, in the rigid exactions from those engaged in the practice of medicine in this state, and in the penalties enforcible for noncompliance with the conditions of registration.

According to its provisions the Governor shall appoint from a list of fifteen Regular, six Homeopathic, six Eclectic and three Physio-Medical practitioners furnished by the incorporated state societies of each school, a board of ten members, five of whom shall be from the Regular school, two from the Homeopathic school, two from the Eclectic school and one from the Physio-Medical school. These persons "shall be learned in the profession of medicine, shall be graduates of recognized and reputable medical colleges, and shall have been actively engaged in the practice of medicine for at least six years preceding the time of such appointment. * * * No member of said board shall belong to the faculty of any medical college or university, or shall be financially interested in the manufacture of drugs or the practice of pharmacy. * * * The business of this board shall be transacted by and receive the concurrent vote from at least seven members." After October 1, 1991, the tenure of office shall be for four years.

On and after October 10, 1899, all persons engaged in the practice of medicine and surgery in any of its branches, and all who wish to begin the same in the state, except as provided, shall apply for registration to the board, and for a certificate of registration. For those who are already legally registered the fee shall be one dollar. For those who are legally registered in any foreign nation where the requirements are deemed equivalent to those of this act, the fee shall be twenty-five dollars. For those who shall give seventy-five per cent. of correct answers upon examination conducted by the board the fee shall be ten dollars, to be paid prior to examination. A fee of ten dollars will be imposed upon those applicants who are legally qualified to practice in another state of the Union where the requirements for registration are deemed equivalent to those of this act, provided such state accords like privileges to holders of certificates from this board. Graduates of any legally incorporated, regularly established and reputable college of medicine in this state, having at least a three years' course of eight months in each year, or a course of four years of six months in each year, or within the United States, will be registered and admitted to practice without examination upon the payment of ten dollars. Diploma mills and instruction by mail will not be recognized. The certificates thus received shall be filed with the county clerk in the county of residence, for which a fee of fifty cents may be collected.

The penalty for noncompliance with this act is a fine of not more than one hundred dollars or an imprisonment in the county jail for not more than ninety days, or both fine and imprisonment for each offense. It is the duty of the prosecuting attorneys of the respective counties to prosecute violations of this act. The use of the letters M. B. or M. D., or the titles Dr. or Doctor by any person in a medical sense to his name, shall be prima facie evidence of practicing medicine and surgery within the meaning of this act.

The exemptions from the act include the performance of official duties by commissioned officers of the United States army, navy and marine hospital service, consultation practice of regularly licensed physicians and surgeons from out of this state with physicians of this state, the legitimate practice of dentists, temporary assistance in cases of emergency, the domestic administration of family medicines, and the practice of osteopathy according to the provisions of act number 78 of the public acts of Michigan of 1897.

The impressions of recent occurrences make noticeable the fact that no mention is made of so-called Christian Science, Faith Healing, et cetera. The relation of these beliefs and practices to rational medicine will necessarily be adjudicated by the courts, and we may be content to rest upon their decisions. While the new law leaves provisions that many might desire, its superiority to the one we have endured encourages the belief that the future has for the medical profession in Michigan a bright prospect.

ANNOTATIONS.

"PUERPERAL FEVER AS A PRIVATE PESTILENCE."

THE infectious character of puerperal fever began to be understood before the end of the last century, and articles were written upon it. General credence made as slow progress, however, with it as with many other discoveries. In 1843 OLIVER WENDELL HOLMES wrote upon "Puerperal Fever as a Private Pestilence," ascribing its existence to preventable sources. WILLIAMS states that HOLMES' teachings had less influence than might have been expected, owing to the opposition of MEIGS, HODGE and other leading obstetricians, "MEIGS stating that he preferred to consider puerperal fever as due to the workings of Providence, which he could understand, rather than to an unknown infection of which he could form no conception." However untenable and ridiculous such a position might have seemed to DOCTOR HOLMES at that time, what should be said of the careless disregard of the a, b and c of surgical asepsis in these days? In view of the dreadful consequences of careless conduct, and the door-to-door dissemination of the momentous truths upon which we have learned to rely, it would seem that humanity alone would forbid by every obstetrician and every midwife the neglect of strict observance of the simple rules of safe practice. Nortwithstanding this we hear one say, perhaps on the side, "I do not do this and that, and have no trouble," and other similar remarks, betraying either a wanton prejudice or an heedless ignorance. The lesson may be slowly learned and may be illustrated with a bitter experience, but, as sure as truth, the page upon which it is written will sooner or later stand before that man or woman in indelible characters. In saying this we do not forget that sepsis may occur in spite of the most scrupulous care. Concerning the symptoms, diagnosis and treatment of such conditions we are fortunate in being able to present in this number a series of valuable papers. In treatment, the past few years has seen developed a tolerably certain technique of antisepsis. There occur cases, however, in which this line of treatment does not suffice. In some of them happy results are reported after the use of the antitoxic serums, and it is this fact to which especial attention is desirably called at this time. The serum treatment of septic conditions is still somewhat crude and uncertain, but the prospect it offers in moments of suspense and helplessness from other known means make it a desideratum that should neither be forgotten nor neglected.

THE INCREASE OF MEDICAL LAW CASES.

The profession cannot be unaware of the rapid increase in the courts of civil malpractice suits and cases of medical jurisprudence. This kind of litigation does not apparently have a very long history since, according to Godkin, "what is probably the first recorded instance of a criminal trial in which the result depended largely upon the conflicting evidence of medical experts" dates from the early part of the last century. The accumulated cases cited by Ordronaux in 1869 in his work on "The Jurisprudence of Medicine" numbered three hundred twenty-four. In "A System of Legal Medicine" by Hamilton and others, published in 1894 five hundred eighteen cases are mentioned. The increasing frequency of these cases in recent years may be gathered from the reference by Purington to "The International Medical Annual" for 1898, in which he states "the number of such law cases noted for the preceding year was one hundred thirty-one." The significance of this fact is obvious. That the people have rights affected by the methods and results of medical practice is as patent as that there are rascals and unprincipled shysters ever ready to take advantage of a thoughtless move or an unguarded moment. The law is not disposed, so we think, to deal unfairly with any man but, as many of us are aware, its varied complexities may subject us to many annoying and scandalous experiences if meted out by a Shylock or other satanic influence in human form.

MORE MEDICAL LEGISLATION IN MICHIGAN.

In addition to the medical practice act revised during the recent session of the Michigan Legislature, two other laws of a medical charactor were also passed. One of these, known as the Goodrich bill, makes it a misdemeanor, punishable by fine or imprisonment or both, for any person or corporation, except a legally incorporated and reputable college of medicine having and requiring actual attendance at a course of study of not less than three years of eight months each, to issue a deploma or certificate implying that the holder of it is qualified to practice medicine or surgery in any of its branches. This act is an admirable complement of the medical practice law in that no other state shall be able to complain of our fair commonwealth as a breeding place for incompetent doctors. The other bill affects participants in marriage. It declares valid all marriages heretofore contracted between white persons and those wholly or in part of African descent, and makes them effectual in law and the issue of such marriages legitimate. It also makes a felony of the marriage of an insane person, idiot or any person who has been afflicted with syphilis or gonorrhea and has not been cured of such disease. Referring to the latter persons conviction shall be followed by a fine of not less than five hundred dollars, or more than one thousand dollars, or by imprisonment in the State's prison at Jackson not more than five years, or by both such fine and imprisonment in the discretion of the court. It also provides for the examination of husband and wife against each other without their consent and for the testimony of any attending physician to any facts he may have found from such attendance. While we may not expect any material increase in the number of bachelors and old maids in Michigan, or even of so-called summer girls, this law cannot fail of being an educating measure of no small importance.

MOTHER *VERSUS* CHILD.

WHILE it is not the province of The Physician and Surgeon to expound theology, the function, nevertheless, occasionally devolves upon the editor to define the attitude of religious dogma toward certain medical practices. In a recent issue this prerogative was exercised regarding the tenet of the Catholic Church bearing on the life of the child in difficult parturition. A clergyman in the thumb of Michigan has taken exception to the doctrine enunciated, however, and requests a citation of authority. The article in question was based on a paper written by C. K. BONESTELL, A. M., professor of medical jurisprudence in the College of Physicians and Surgeons of San Francisco, and published in the *Pacific Medical Journal* for April. As the professorial chair occupied by the author presupposed a correct knowledge of ecclesiastical and civil law regulating the practice of medicine, the truth of his statements concerning Catholic doctrine affecting child life was not investigated prior to the appearance of the article challenged by our correspondent. However, on consulting "Moral Principles and Medical Practice," by REVEREND CHARLES COPPENS, S. J., we find argument presented that contradicts the ecclesiastical rendering of the San Francisco professor, and clearly indicates the ruling of the Church. FATHER COPPENS, who, by the way, is also professor of medical jurisprudence in a western institution (Creighton Medical College of Omaha), considers fetal life in a chapter on "Craniotomy," and during the course of his lecture has this to say:

> * * * "But are there no exceptions to the general law, 'Thou shalt not kill?' Are there no cases in which it is allowed to take another's life? What about justifiable homicide? There are three cases of this nature, gentlemen; namely, self-defence, capital punishment inflicted by the state, and active warfare. With only one of these can a physician, as such, be concerned or think himself concerned. He is not a public hangman executing a sentence of a criminal court; nor is he acting as a soldier proceeding by public authority against a public foe. As to the plea of self-defence, it must be correctly understood, lest he usurp a power which neither human nor divine law has conferred upon him. Now the only case in which the need of medical treatment against unjust aggression could become a matter for discussion in jurisprudence is the case of a mother with child. Is the child under these circumstances really an unjust aggressor? Let us study that important case with the closest attention. Let all the rays of light

we have gathered so far be focussed on this particular point. Can a physician ever be justified in destroying the life of a child, before or during its birth, by craniotomy or in any other manner, in order to save its mother's life, on the plea that the child is an unjust assailant of the life of its mother? Put the case in a definite shape before you. Here is a mother in the pangs of parturition. An organic defect, no matter in what shape or form, prevents deliverence by the ordinary channels. All that medical skill can do to assist nature has been done. The case is desperate Other physicians have been called in for consultation, as the civil law requires before it will tolerate extreme measures. All agree that, if no surgical operation is performed, both mother and child must die. There are the Caesarian section, the Porro operation, laparotomy, symphysiotomy, all approved by science and the moral law. But we will suppose an extreme case; namely, the circumstances are so unfavorable for any of these operations—whether owing to want of skill in the doctor's present, or for any other reason—that none can safely be attempted; any of them would be fatal to the mother. In this extreme case of necessity, can the doctor break the cranium of the living child, or in any way destroy its life with a view to save the mother? If three consulting physicians agree that this is the only way to save her, he will not be molested by the law courts for performing the murderous operation. But will the law of nature and of nature's God approve or allow his conduct? This is the precise question under our consideration. We have seen that the infant, a true human being has a right to live, as well as its mother. 'All men are created equal, and have an equal right to life,' declares the first principle of our liberty. The Creator, too, as reason teaches, has a clear right to the child's life; that child may answer a very special purpose of Providence. But whether it will or not, God is the supreme and the only master of life and death, and He has laid down the strict prohibition, 'Thou shalt not kill.' Now comes the plea of self-defence against an unjust aggressor. If the child is such, if it *unjustly* attacks its mother's life, then she can destroy it to save herself, and her physician can aid the innocent against the guilty party. But can it be proved that the infant is an unjust aggressor in the case? There can be no intentional or *formal* guilt in the little innocent babe. But can we argue that the actual situation of the child is an unjust act, unconsciously done, yet *materially* unjust, unlawful? Thus, if a mad man would rush at me with a sharp sword, evidently intent on killing me, he may be called an unjust aggressor; though, being a raving maniac, he does not know what crime he is committing, and is *formally* innocent of murderous intent. *Materially* considered, the act is unjust, and I can defend myself lawfully as against any other unjust assailant. Such is the common teaching of moralists. But can the innocent babe be classed in the same category with the raving maniac? Why should it? It is doing nothing; it is merely passive in the whole process of parturition. Will any one object that the infant has no right to be there at all? Who put it there? The only human agents in the matter were its parents. The mother is more accountable for the unfortunate situation than the child. Certainly you could not, to save the child, directly kill the mother, treating her as an unjust assailant of her child's life? Still less can you treat the infant as an unjust assailant of its mother's life. The plea of self-defence against unjust aggression being thus ruled out of court in all such cases, and no other plea remaining for the craniotomist, we have established, on the clearest principles of ethics and jurisprudence, that it is never allowed directly to kill a child as a means to save its mother's life. It would be a bad means, morally evil; and no moral evil can ever be done that good may come of it: the end cannot justify an evil means. In theory all good men agree with us that the end can never justify the means." * * *

CONTEMPORARY.

THE STANDARDIZATION OF DRUG EXTRACTS.

[THE SAINT LOUIS MEDICAL AND SURGICAL JOURNAL.]

We have been told for years that medicine is an art and can never aspire to the higher plane of a science. This may be true, but it is equally true that the right efforts made in the proper direction will have the effect of bringing the art much nearer to the desirable state of being a science than if drugs are made in that haphazard manner in which they have been prepared in the past. Of course there is to our knowledge an honorable exception to this, and the firm which has derived its methods from the Pharmacopeia and produced reliable, standardized preparations, has given to the medical profession reliable tools with which it might work. It is a notorious fact, or should be, that no two parcels of such strong and important drugs as hyoscyamus, belladonna, nux vomica, opium, aconite, digitalis, et cetera, contain exactly the same proportion of active principles, and the varying conditions under which they are grown, gathered and cured, produce marked fluctuations in the percentage of the active principle present and corresponding fluctuation in medicinal power. This naturally deprives all treatment of precision, and makes the use of such preparations, at times, positively dangerous to the patient.

To obviate this it certainly stands to reason that chemical and physiological assays of crude drugs should be made, and the resulting preparations adjusted to a fixed standard of medicinal power. The Galenical preparations must be standardized if the profession is to employ them, and this very standardization should be the duty of the revisers of the Pharmacopeia. They have already adopted standards for opium, nux vomica and cinchona. There is no reason why they should not do so for a large number of important drugs which are equally as toxic, or more so. It is not necessary to have chemical tests to standardize, for these often fail, but the pharmacological test will always be found adequate and satisfactory. Physiological assay methods are productive of such good results that no excuse will hold any longer for the neglect of the standardization of drugs.

We think that it is the duty of the Committee of Revision of the United States Pharmacopeia to take this matter into serious consideration, as it is a matter of the deepest moment to the medical profession, and should be equally so to the pharmaceutical. Physicians are daily manifesting their disinclination of working in the dark, and they very truthfully complain that they do not know what they are giving their patients unless they can obtain the products of manufacturers who standardize their drugs. We would urge this matter, as it is of the highest importance to the public as well as to the medical profession, and the adoption of standards of strength for drugs would inevitably work to the advantage of the medical and pharmaceutical professions and of the community at large.

MEDICAL NEWS.

THE NATIONAL MEETING.

THE recent meeting of the American Medical Association at Columbus was one of the most successful in the history of the organization. The delegates numbered 1737 and the papers were abundant and excellent. Doctor W. W. Keen, of Philadelphia, was elected president; Doctor H. Simmons, of Chicago, secretary; and Doctor H. P. Newman, of Chicago, treasurer. Doctor H. O. Walker, of Detroit, was elected chairman of the Section on Surgery and Anatomy; Doctor George Dock, of Ann Arbor, chairman of the Section on the Practice of Medicine; and Doctor V. C. Vaughan, of Ann Arbor, orator on State Medicine. The next meeting will be held at Atlantic City, New Jersey.

THE MEDICAL BILL.

AN ACT to Provide for the Examination, Regulation, Licensing and Registration of Physicians and Surgeons, and for the Punishment of Offenders against this act, and to repeal acts and parts of acts in conflict therewith.

The People of the State of Michigan enact:

Section 1.—That the Governor shall appoint, by and with the advice and consent of the Senate, ten resident electors of the State, who shall constitute a Board of Registration in Medicine. Not more than five of the persons so appointed shall be from the school of medicine known as Regular; not more than two of the persons so appointed shall be from the school of medicine known as the Homeopathic; not more than two of the persons so appointed shall be from the school of medicine known as Eclectic; and not more than one of the persons so appointed shall be from the school of medicine known as Physio-Medical, and the appointees may be chosen from lists submitted to the Governor biennially by each of the four legally incorporated State medical societies of the schools of medicine, as herein mentioned aforesaid, such lists to be certified to under oath of the president or secretary of each society respectively, and filed by them in the office of the Secretary of State at Lansing on or before the fifteenth day of September of the present year and on or before the first day of March in each succeeding biennial period. Such lists to contain at least treble the number of names as each society has representatives on the board. But in the event that one or more of the societies above named, through their president or secretaries, shall, from any cause, neglect, omit or refuse to file as aforesaid such list or lists, then and in that case the Governor shall appoint or fill the vacancies in said board without reference to such list or lists which the aforesaid society or societies have for any cause neglected, omitted or refused to file with the Secretary of State, as herein mentioned aforesaid; but the number of representatives from each of the schools of medicine shall be the same as provided for in this act. All persons so appointed shall be learned in the profession of medicine, shall be graduates of recognized and reputable medical colleges, and shall have been actively engaged in the practice of medicine for at least six years immediately preceding the time of such appointment. The ten persons so appointed shall be appointed in two classes, each class to consist of five persons. The first class shall be appointed to hold office for two years, the second class for four years, beginning with the first day of October of the present year and until their successors are appointed; and thereafter the Governor shall appoint, before the first day of October of each biennial period, five persons qualified as aforesaid, in each class to hold office for four years from the first day of October next ensuing. No member of said board shall belong to the faculty of any medical college or university, or shall be financially interested in the manufacture of drugs or the practice of pharmacy. The Governor shall also fill vacancies occasioned by death or otherwise, and may remove any member for the continued neglect of duties required by this act. Vacancies in said board shall be filled in accordance with the provisions of this act for the establishment of the original board, and a person appointed to fill a vacancy shall hold office during the unexpired term of the member whose place he fills. The business of this board shall be transacted by and receive the concurrent vote from at least seven members.

Section 2.—The members of said board shall meet on the second Tuesday of October, eighteen hundred ninety-nine, at the State Capitol at Lansing, and shall then elect a president from their own number, and a secretary who need not be of their number, but each of whom shall hold their respective offices for two years, and shall have the power to administer oaths. Not less than seven members shall constitute a quorum of said board for transaction of business. The secretary shall give to the treasurer of the State a bond in the penal sum of five thousand dollars, with sufficient sureties, to be approved by the Governor, for the faithful discharge of his duties. The said board shall hold two regular meetings in each year, beginning with the year eighteen hundred ninety-nine; one on the second Tuesday of October, eighteen hundred ninety-nine, and one on the second Tuesday of June, nineteen hundred, and so on, and such additional meetings at such times and places as it may determine.

Section 3.—On and after the second Tuesday of October, eighteen hundred ninety-nine, all men and women engaged in the practice of medicine and surgery in any of its branches, and all who wish to begin the same in the State, except as hereinafter provided, shall make application to said board to be registered and for a certificate of such registration. This registration and certificate shall be granted to such applicants as shall give satisfactory proofs of being twenty-one years of age and of good moral character, but only upon compliance with at least one of the following conditions:

(1) The applicant shall be registered and given a certificate of registration if he shall present sufficient proof within six months after the passage of this act of his having already been legally registered under act number one hundred sixty-seven of eighteen hundred eighty-three, as amended in eighteen hundred eighty-seven, entitled "An act to promote public health." The fee for applicants of this class shall be one dollar.

(2) The applicant shall be registered and given a certificate of registration if he shall present a certified copy or certificate of registration or license which has been issued to said applicant in any foreign nation where the requirements for registration shall be deemed by said board to be equivalent to those of this act: Provided, Such country shall accord a like privilege to holders of certificates from this board. The fee for registration from applicants of this class shall be twenty-five dollars.

(3) The applicant shall be registered and given a certificate of registration if he shall satisfactorily pass an examination before the board upon the following subjects: Anatomy, physiology, chemistry, pathology, therapeutics, toxicology, histology, hygiene, public health laws of Michigan, practice of medicine, surgery, obstetrics, gynecology, diseases of the eye and ear, bacteriology and medical jurisprudence; said examination to be conducted as follows:

(a) The applicant shall pay a fee of ten dollars prior to examination.

(b) The examination shall be in writing, oral or both.

(c) The questions on all subjects except in therapeutics and practice of medicine, shall be such as may be answered alike by all schools of medicine.

(d) The applicant shall, if possible, be examined in therapeutics and practice of medicine by those members of the board belonging to the same school as the applicant; and no applicant shall be rejected because of his adherence to any particular system of medicine.

(e) An average percentage of at least seventy-five per cent. of correct answers shall be required from every candidate. No additional fee shall be charged by this board for the registration of those who successfully pass such an examination.

(4) The applicant shall be registered and given a certificate of registration if he shall present a certified copy or certificate of registration or license which has been issued to said applicant in another state of tne Union where the requirements for registration shall be deemed by said board to be equivalent to those of this act: Provided, Such state shall accord a like privilege to holders of certificates from this board. The fee for registration from applicants of this class shall be ten dollars.

(5) The applicant shall be registered and given a certificate of registration, if he shall have a diploma from any legally incorporated, regularly established and reputable college of medicine in this State, having at least a three years course of eight months in each year, or a course of four years of six months in each year, or within the United States, except as heretofore provided, as shall be approved and designated by the board of registration, upon payment of ten dollars, and upon complying with all other requirements of this act, such certificates conferring upon the holders of such diploma all the rights and privileges conferred by this act, without examination.

(6) The board of registration shall not register any person by reason of a diploma from any college which sells, or advertises to sell diplomas "without attendance," nor from any other than a reglularly established and reputable college.

Section 4.—The person receiving a certificate of registration shall file the same, or a certified copy thereof, with the county clerk in the county where he resides, and said clerk shall file said certificate or the certified copy thereof, and enter a proper memorandum thereof in a book to be provided and kept for that purpose, and may collect therefor a fee of fifty cents for each certificate or copy thus filed. And said county clerk shall, on the first day of each month, furnish to the secretary of said board a list of all certificates filed in his office during the preceding month on a blank provided for that purpose, and upon notice to him of the change of location or death of a person granted a certificate, or upon the revocation of the certificate granted such person, said county clerk shall enter at the appropriate places in the record so kept by him a memorandum of said facts; so that the record so kept by said county clerk shall correspond with the records of said board, so kept by the secretary thereof. In case a person having thus filed a certificate shall move into another county of the State, he shall procure from said county clerk a certified copy of said certificate, and file the same with the said county clerk of the county to which he shall so remove. Said county clerk shall file and enter the same with like effect, as if the same was the original certificate.

Section 5.—All moneys received by said board shall be paid to the State Treasurer monthly, and shall be credited to the general fund of the State, and a receipt for the same shall be filed by the secretary of the said board in the office of the Auditor General. The incidental and traveling expenses of said board, and such salary to the secretary as said board may fix, shall be paid from such fund only. The members of said board, except the secretary, shall receive no compensation for their services, except necessary traveling and hotel expenses in attending meetings of said board; and in no case shall any more be paid than was actually expended. Such incidental and traveling expenses shall be approved by said board and sent to the Auditor General of the State, who shall draw his warrant upon the State Treasurer for the amounts due, as in case of other bills and accounts under the provisions of law: Provided, That the amount so paid shall not exceed the amount received by the Treasurer of the State from said board in fees, as herein specified, and as much of said receipts as may be necessary is hereby appropriated for the compensation and expenses of said board as aforesaid.

Section 6.—Said board shall collect from the various county clerks of the State, each month, a report of all registrations made. Said board shall also keep a record of all moneys received and disbursed by it each month, and said record shall always be open to inspection at the office of the Secretary of State. Said board shall annually report to the Governor, on or before the first day of January of each year, the condition of medicine and surgery in this State, which report shall contain a full and complete record of all its official acts during the year, and shall also contain a statement of its receipts and disbursements.

Section 7.—Any person who shall practice medicine or surgery in this State, without first complying with the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than one hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment, for each offence. It shall be the duty of the respective prosecuting attorneys of the counties of this State to prosecute violations of the provisions of this act, upon information furnished by the records of the county clerk, or a member or members of said registration board, or by any other person entitled to credit.

Section 8.—This act shall not apply to the commissioned surgeons of the United States army, navy, or marine hospital service, in actual performance of their official duties, nor to regularly licensed physicians or surgeons from out of this State, in actual consultation with physicians of this State, nor to dentists in the legitimate practice of their profession, nor to temporary assistants in cases of emergency, nor to the domestic administration of family medicines, nor any legally qualified osteopath engaged in the practice of osteopathy under the provisions of act number seventy-eight of the public acts of the State of Michigan of eighteen hundred ninety-seven, regulating and licensing the practice of osteopathy in the State of Michigan.

Section 9.—When any person shall append the letters M.B. or M.D. or prefix the title "Dr." or Doctor or any other sign or appellation in a medical sense to his name, it shall be prima facie evidence of practicing medicine and surgery within the meaning of this act.

Section 10.—It shall be the duty of the assessing officer at the time of making the annual assessment to make out a list of physicians residing within his township, village, district, ward or city, with the name, age and sex of each, and the length of time each has been engaged in practice. Such list shall be returned by the assessing officer to the county clerk, and by the clerk recorded in a book in which are kept the records of the board, and annually on or before the first day of January such clerks shall furnish certified lists of the same to the Secretary of this Board.

Section 11.—An act entitled "An act to promote public health," approved June six, eighteen hundred eighty-three, and the act amendatory thereto, approved June twenty-seven, eighteen hundred eighty-seven, except as to all penalties which shall have accrued thereunder, are hereby repealed.

RECENT PUBLICATIONS.

REVIEWS.

DISEASES OF WOMEN.*

As the author of this manual intimates we do not want for gynecological publications. We have them galore. However, his purposes to present the elements of the diagnoses and treatment of female diseases in a manner especially adapted to students and many practitioners are fully realized in this volume. Brevity, definiteness, the absence of superfluities and mooted points and explicit illustrations are characteristics of the work.

*By F. H. Davenport, A. B., M. D., Assistant Professor in Gynecology in Harvard Medical School; Assistant Surgeon to the Free Hospital for Women, Boston. Third edition, revised and enlarged. Lea Brothers & Company, Philadelphia and New York.

RETINOSCOPY IN THE DETERMINATION OF REFRACTION, ET CETERA*

This little manual contains a very clear exposé of the method of examining and determining the refraction by means of the shadow tests. While the author favors the plain mirror, others prefer the concave mirror. Again, the author uses cycloplegics, while some ophthalmologists think them unnecessary and use them only in exceptional cases. The description is lucid, mechanical execution good, and the work should be read by all who do refraction work.

E. S.

*By James Thorington, M. D. P. Blakiston's Sons & Company, Philadelphia.

DISEASES OF THE EYE: A HANDBOOK OF OPHTHALMIC PRACTICE.*

The third edition of this valuable text-book, following so closely upon the second edition, speaks volumes for its worth. It is one of the handiest, most lucid, and yet concise of the many text-books on ophthalmology before us at this time. It has been thoroughly revised and much new matter added. This is an era of microorganisms, and the relations of many eye diseases to special forms of bacilli have been elucidated in this edition. The *book maker* has done his part well, the illustrations are good, and we take pleasure in recommending the work.

E. S.

*By G. E. deSchweinitz, A. M., M. D. W. B. Saunders, Philadelphia.

FRACTURES AND DISLOCATIONS.*

The science of Fractures and Dislocations has been pretty well worked out for which some credit at least is due the author of this volume. Though somewhat of an abridgement of a former work it loses none of its pretentious character and gains in conciseness and comprehensiveness. The influence and value of skiagraphy upon the diagnoses and treatment of the conditions herein described have been introduced and duly considered. Altogether the work measures up admirably to the demands of the subject and the needs of the practitioner.

*By Lewis A. Stimson, B. A., M. D., Professor of Surgery in Cornell University Medical College, New York. In one octavo volume of 823 pages, with 321 engravings and 20 full-page plates. Cloth, $5.00 net; leather, $6.00 net. Lea Brothers & Company, Philadelphia and New York.

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MEMOIRS.

PHYSICIAN, PRIEST AND PATIENT.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

I appreciate the opportunity of addressing a body of professional gentlemen. The position they hold in the community gives them superior influence for good or for evil. The only worthy motive, it seems to me, to induce a man to adopt a professional life, the only one, at least, capable of sustaining and advancing him to prominence, is a genuine love for it, born of a sincere desire to promote the welfare of his fellow man. I once heard a public man say that he did not see why more young men did not enter the clerical profession, as it is an honorable calling, affording a comfortable living and a clean, easy job. I would advise the young man who takes that view of any profession, to keep out of it. He is not likely to be a credit to it and he certainly will never attain the eminence, nor accomplish the life work for which his talents might otherwise fit him. That a profession is an honorable calling is true; that it is a clean, easy job will not be admitted by those who have devoted the best years of life to arduous study and assiduous practice in comparison with which physical labor is recreation; it ought indeed afford a comfortable living, but a profession is not the high road to wealth. There is an old Civil War story of a colored domestic who was allowed his daily schnapps. One day he interrupted the whitewashing of a chicken coop to come in for them. His master twitted him: "Sam, do you whitewash for schnapps?" "No," replied Sam, "but I cannot whitewash without them." A man does not devote his life to a profession to acquire wealth, but he cannot do so without a comfortable living.

A requisite for success in the professions is a good general education. There has been a deficiency in this respect in the past owing to circumstances—the newness of our country, the demands of its rapid and extensive development, the nascent condition of our institutions. All credit to those who with limited opportunities have sustained the honor of the professions. But we have grown out of our teens. The defect has long been recognized and praiseworthy efforts are being made to remedy it. A good general education develops and broadens the mind and builds the character on a foundation of principles which alone can sustain the superstructure of science and life, and equip the aspirant with the knowledge which the professions require, but do not impart. General education should professedly include religion. Even from a speculative standpoint religion is necessary, being one of the main branches of learning. Without it a man's education is as incomplete as without natural science, literature, history, philosophy or mathematics. From a practical point of view, it is still more necessary. Education is the development of the whole man, mind and heart and body. Religion is the most, nay, the only efficient means to impart to the character that stability which will secure the welfare, for time and eternity, of the individual and social man. It cannot be ignored or eliminated from general education. The attempt to do so is to teach infidelity which is no less a religion, though a negative one. Religion, to be effective, must be a true, positive, definite something; a vague compromise will fail of effect. It is not professedly included within the curriculum of professional studies; yet it should not be antagonized by them. If, then, not embraced in general education it will not be taught at all.

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*Read before the Wayne County (Detroit) Medical Society.

Among the professions there are no two whose mutual cordial relations and cooperation can be more conducive to the common welfare than the medical and clerical. For the public good depends fundamentally on the individual whose physical and moral welfare are respectively the specific objects of these professions. If, then, my remarks promote these relations, I shall feel that I have rendered a real service. To do this it is not necessary to enter their specific spheres. The psycological and ethical principles which underlie their duties and relations furnish a field teemingly prolific.

Man is one individual being; but his nature is compound, consisting of animal and spiritual, body and soul. The soul is spiritual, immortal, endowed with intellect and free will, on the proper use of which depend his present welfare largely, his future happiness entirely. These psycological truths can be substantiated from natural reason; as I advance them, not to introduce philosophical argument, but on account of their bearing on the relations of physician and priest, I shall assume them, especially as I believe they are already admitted, or that those who speculatively question them, practically accept them.

As the body and soul unite to constitute one being, they must mutually act upon one another and the welfare of either will largely influence that of the other. In many cases treatment of one without regard to the other can hardly be successful. This assertion may be ridiculed by taking an extreme case; for example, cannot a doctor put a plaster on a sore foot without calling in the priest? But let us take the opposite extreme. The murderer whose guilty conscience marshals his victims before his imagination mid spectors of blood and corpses, skeletons and ghosts, will experience agitation of brain that through the nerves will affect every organ of the body and baffle the efforts of the bewildered physician. Again, the debauchee whose habits of criminal excess have tainted his blood, poisoned the humors of his body, deranged his nervous system, will be appealed to in vain by the priest, for change of heart has become almost a physical impossibility. Physician or priest alone will treat such cases in vain, but their combined efforts will succeed if success lie with the limits of possibility. Physicians prescribe vacations, travel, rest to patients whose ill health is caused or aggravated by the anxiety of business. The anxieties of a guilty conscience, though seemingly and momentarily submerged, yet really and enduringly intensified by distraction and dissipation, can be permanently relieved only by religion that can quiet the repentant sinner with the assurance of pardon. Its aid, then, is indispensable to the success of the physician's efforts. So the priest who would reform and brace up the will of the debauchee must advise medical treatment to expel the germs of passion and vice from his blood and nerves and the very marrow of his bones. Such cases put my assertion beyond doubt; but it is proportionally true in less extreme cases. It is not in public prisons and asylums alone, nor in the lower criminal classes only that disturbed consciences are to be found.

Another psychological principle is that the soul is superior to the body. This needs no proof to anyone who admits that man has a soul. It stands to natural reason. The body associates him with the brute animal; the soul elevates him above it; the body is material and mortal, the soul spiritual and immortal; the body is the rebellious slave, the soul is by right master. Even temporal happiness depends more on the soul than on the body; physicians daily witness the physical sufferings, the ruined homes and lives, the deranged minds and broken hearts caused by immoral excesses; with peace of mind a man can patiently endure, even be happy amid bodily sufferings; but in perfect physical health he is wretched if haunted by a guilty conscience. If we consult revelation, it will tell us that it profits a man nothing to gain the whole world if he suffer the loss of his soul; that the image and likeness of God are chiefly in the soul; that success in life consists not in the possession of fleeting temporal things, but in the attainment of eternal happiness; that if the soul be lost, all is lost even though in life man were to enjoy a perpetual round of wealth and honor and pleasure; but if saved, all is saved, even though temporal life were spent in poverty, lowliness and suffering. The soul never demands sacrifice of the welfare of the body but rather promotes it; the welfare of the body should never demand sacrifice of that of the soul. The relations of soul and body properly understood are the foundation of the relations of physician and priest in attending patients.

Physician and priest have each his proper and legitimate sphere which ordinarily should not be entered by the other, though emergencies may sometimes make it a duty of charity, or flagrant abuse of influence or opportunities may make it a professional duty to do so. It is not the business of the priest to prescribe, dictate or pronounce upon the medical treatment of a patient; in fact the laws of the church forbid the clergy to practice medicine. Neither does it belong to the doctor to preach religion or direct consciences. These assertions are readily admitted by all except two opposite and extreme opponents: the materialist, who, denying the spiritual and immortal nature of the soul, ridicules the ministrations of the priest; and the Christian scientist, so-called, by the law of contraries, for he is neither Christian nor scientist, who, holding all diseases mental, would dispense with the services of the physician; with the Christian scientist may be associated the so-called faith-curer, who, plagiarizing a fair name and aping holy practices founded on true doctrines, as quacks do toward doctors, imposes on the unsophisticated and sins by presumption in unnecessarily asking God to work miracles though neglecting or despising the natural means God has supplied and wishes man to use.

While keeping within their proper spheres, the physician and priest can aid one another. The priest can assist the physician. Every doctor knows how much the success of his efforts depends on the frame of mind and dispositions of his patient. Peace of mind quiets the nerves and induces rest; candor, confidence, docility, obedience to his instructions are so necessary that his success is in proportion to them; patience, resignation, fortitude in suffering are invaluable to him; his honest and enlightened efforts, even when unsuccessful, must be justly judged and honorably acknowledged by gratitude and compensation. In the hour of suffering and anxiety, or perhaps of unreasonable disappointment, patients and friends are apt to forget these considerations. Who can more effectually recall them than the priest, what motives enforce them more successfully than those of religion? In many cases, especially of the poor, the priest is called before the doctor. How often has he, by a little presence of mind, or by the use of some simple remedy, averted or postponed a crisis, the occurrence of which would have made the doctor's visit too late?

The physician can assist the priest. There are cases in which charity may impose on him duties which properly belong to a priest. For instance: baptism is necessary for salvation and can be administered validly, and in case of necessity, should be administered, by any sane person, whatever be his religion, who knows how to do so. Now, suppose a case of delivery, natural or artificial, dangerous to the child; or the removal of a living fetus, mature or immature, from the womb. The doctor may be the proper and only person present to baptize it, and charity requires him to do so if such be the wish of parents either expressed or implied by their religious faith. Should a doctor not know how, or be unwilling to do so, a Catholic family could not conscientiously employ him for such cases, nor a priest recommend him. A woman once asked me to be on hand as she expected a confinement dangerous to her child. I told her that the doctor or the nurse could baptize it in case of danger. She answered that she would not trust either as both laughed at religion, a fact which she did not know in time, but would take into consideration on future occasions.

Again, a physician can render valuable assistance to a priest by timely notification of danger, for on it may depend the salvation of a soul. The rule and practice of Catholics are: Call the priest as soon as there is real danger even though remote. In old Catholic times it was a law that in cases of serious sickness, the physician could not pay the second visit until the priest had seen the patient. A man does not wait till the extreme moment to arrange his temporal affairs, but does so while in full possession of his faculties; at least equal prudence should be exercised in regard to the more important affairs of his eternal salvation. Some very erroneous notions are entertained about the visit of the priest: that he brings a kind of death warrant; that he is not needed till the extreme moment; that he will disturb or excite the patient. If such absurd ideas need answer, it is contained in what I have already said. But let me call attention to the teachings of the church on the Sacrament of Extreme Unction. Besides spiritual effects, it not unfrequently produces wonderful physical improvement. Is it then a miracle-working sacrament, a kind of faith-cure? No, but in answer to the prayer of faith and the use of the sacraments he has instituted, God sometimes gives greater efficacy to the natural means employed. Facts confirm this. Many physicians, even nonCatholic ones, who have had much experience among Catholic patients, have acknowledged that, after the visit of the priest, they have found physical improvement they did not expect and could not account for.

Want of harmony between physician and priest would be detrimental to the efforts of each. The priest who would interfere with the legitimate duties of the physician, or by word or action lessen the confidence of the patient in him, would certainly do wrong. As far as my experience goes, I think that physicians generally acknowledge that the priest is their most trusted ally. Priests can sincerely return the compliment with regard to physicians in respectable standing in the profession. It is not, then, to find fault with them, that I shall call attention to the misinterpretation and misuse sometimes made of their directions by relatives of the patient, to obstruct the priest in the discharge of his duties. Sometimes a physician, quite properly and with the best intentions, gives instructions that "the patient must not be disturbed." Relatives who are prejudiced against the religion of the sick person will take advantage of such advice to deny admittance to a priest and thus violate the conscientious rights of the patient. I heard recently of a house furnisher who on his sick bed wished to see a priest. Relatives refused to admit one. He managed to send word secretly. The priest, somewhat disguised, called, saying he wished to see the man on business. "What is your business," he was asked suspiciously. "I am an interior decorator," was his prompt reply. As it was natural for a house furnisher and an interior decorator to have financial relations, he was admitted.

A priest is sometimes obstructed in the discharge of his duties by the administration of opiates and anesthetics. There are circumstances in which their moderate and judicious use is justifiable. But there are also cases in which their use, at least to the extent to deprive the patient of the use of his faculties, is simply criminal. Suppose the case of a wealthy patient whose will is not yet signed—Would relatives permit, would any one justify their use to the extent to make him unconscious? Instead of the signing of a will, let us substitute the saving of his soul. Would their administration be any more justifiable? But sympathy will plead, "Would you have the poor man suffer such pain?" A higher sympathy would answer, "Would you expose him to the danger of eternal pains?" "But he has received the last rites of religion." "But who can be sure of his condition?" "But the anesthetics will remove him from the possibility of sinning again." "So, also, from the possibility of repentance if in the state of sin." "But his sufferings may be the cause of sin to him." "So, also, the source of merit and atonement." At least let a man prepare to meet his Creator and Judge with all the consciousness nature allows him. I knew an eminent man who, on his death bed, wished to see a priest. His prejudiced wife dismissed several that called. She heard that one, whose family were on terms of intimate friendship with her own, intended to call. As she could not refuse him admittance without offense to her friends, she had anesthetics administered to her sick husband that threw him into a comatose state from which he never revived. If that man's soul is in hell, who is responsible?

But some physicians are not Catholics, do not believe in our doctrines, perhaps not even in the spiritual and immortal nature of the soul, nor in future rewards or punishments. Yet every fair minded and honorable man respects the conscientious convictions of others. This requires not only that he place no obstacles in their way, but also, that when, as in the relations of physician and patient, the fulfillment of the conscientious obligations of the latter depends on the professional duties of the former, these should be so discharged as to facilitate the other. Again, whatever may be the religious views of the physician, humanity will induce him to allow the patient, to whom he can offer no earthly hope, the consolations of religion which above all others can dull the sting of death. In passing through a hospital ward one day, the expression on the countenance of a patient drew me to his bedside to say a sympathetic word. This made him so happy that I sat down and soon knew his history. He had once been of manly physique, a prosperous merchant, intelligent, socially blessed. Through sickness he was now almost a second JOB in loss of business, wealth, family, friends, a charity patient beyond recovery. In religion he had never professed anything in particular, went to any church to accompany friends or witness interesting services and thought no more of it. I asked him whether he would like to hear something more definite about it now, for as he was soon to die, it was important for him to know whether there was a future dependent upon it. He was not only willing but desirous. I visited him every day for a couple of weeks, instructing him in the most important points and he earnesely asked me to make him a Catholic. After making sure of his sufficient instruction, his full consciousness, and the requisite dispositions, I did so. The next day I visited him again and asked if he realized the step he had taken, if he regretted it or rejoiced at it. He could hardly answer, big tears were in his eyes, he grasped my hand with both his and sobbed: "This is the happiest day of my life, though I never experienced greater bodily suffering; there is a burden lifted from my heart. May God's will be done, I am ready to die." That night the end came. Even if there were no hereafter, I would feel that I had done a good deed in making that man's last moments so peaceful and happy.

It is the physician's special calling to promote life and health; the priest's, to save souls. The former depends largely on morality, the latter, entirely. Physician and priest should cooperate to secure a factor so important for the work of each. There are immoral practices which call for their combined efforts. I shall select but two on account of their growing prevalence and ruinous consequences; the more so because the spirit of the age seems to be becoming accustomed and hardened to them; attempts are even made to palliate and minimize, excuse and even justify them. They are prevention of conception and abortion. Their prevalence is undoubted. The market is full of instruments and remedies to effect them; the knowledge of them is spread among the young and simple; there is foundation for saying that each of our large cities is thus annually deprived of thousands of citizens.

Prevention is a violation of the law of nature, intrinsically wrong. Whatever be a man's religious views, the voice of natural reason tells him that to prevent conception is to frustrate a primary end of nature. Onanism, then, or the use of artificial means for this purpose, can never be justified. It is idle to say that it is not taking life. Murder is not the only crime against nature; and yet prevention seems to participate in the nature of murder by anticipation. Difficulty and danger of labor, too numerous offspring, poverty, health and the like are equally idle excuses. There can be no excuse for doing that which is intrinsically wrong. People will grasp at any shadow of a reason to justify what they wish to do. A doctor's well meant expression of sympathy for one who has had difficult labor, of apprehension for the next confinement, of hope that there may be a long interval, a suggestion "to be careful," has, contrary to his intentions, often led to many crimes of this nature.

A still more grievous crime is abortion. It may be well to determine first what is abortion from a moral standpoint. It is generally admitted, I believe, that after the seventh month of gestation the child is viable. Artificial delivery after that time is not abortive but premature. If brought about by craniotomy or other means destructive of life, it is criminal. If by means not destructive of life, or at least not directly so, it is lawful for proportionately weighty reasons. Before the end of the seventh month, the fetus is immature, not viable. To use means whose direct effect is its expulsion from the womb, is to kill it. This is abortion. The use of means whose direct and intended effect is something else, though indirectly it may cause the expulsion of the fetus, if such a case be practical, is not abortion in the moral sense of the term. Under extraordinary circumstances, as when the mother's life is at stake, this is justifiable on the principle that we are not obliged to omit a necessary or useful good action because evil consequences may follow, provided the evil consequnces are not intended or directly sought, and the reasons for the performance of the good action are sufficiently weighty to justify the permission of the evil effects. If this principle were not true, we would hardly be able to discharge the duties of life, for example, we could not defend ourselves against violence. In such cases the evil effects are not used as means for a good end; this is never allowable.

Direct abortion is intrinsically wrong for it is a violation of the law of nature; no conceivable excuse can justify it. Some try to ease their consciences by the opinion that the fetus does not possess its own principle of life, the soul, until forty or eighty days after conception, or even till the time of quickening or perceptible motion after about four months. In the first place this opinion is no longer maintained by physicians, psychologists or moralists of recognized standing. The position of the Catholic church on the question may be understood from the fact that she prescribes conditional baptism of the live fetus at any time after conception. In the second place, the decision of this point is not material to the question of the immorality of abortion, though some try to persuade themselves that if they have not destroyed life, they have done no wrong. It would startle us, I think, if we knew to what extent this impression exists and is the subject of conversation in circles from which we would expect such subjects to be excluded. Whatever be the legal definition of abortion, from a moral standpoint it is the direct and artificial expulsion of the immature fetus at any moment after conception. If animated by its own soul, its expulsion is actual murder; if not, it is anticipated murder. In either case it is real abortion, destruction of life and highly criminal.

Some would accuse the fetus that endangers the life of the mother, of being an unjust aggressor whom it is lawful to kill. An unjust aggressor is one who by his own act unjustly jeopardizes the life of another. The fetus has performed no act, it is incapable of injustice; it is there by the free act of parents. But the mother has a right to her life. Not by the slaughter of innocents. Excuses founded on ill-health, poverty, too numerous offspring are already answered.

There is one specious argument. Of two evils, it is allowed to choose the less, or to choose one in order not to suffer both. Suppose a case in which abortion will save the life of the mother; without it, both mother and child must die. This argument evades the point at issue; it ignores the moral evil. Let us introduce this element into the argument. Of two evils, choose the less. The death of mother and child are physical evils; abortion is a moral evil. One moral evil outweighs all physical evils. Therefore, sad as it may be, the eternal immutable law of rectitude says, permit the physical evils that nature induces; they are unavoidable if they can be prevented only by murder, by moral evil. To depart from this rule is to sap the foundation of all morality. That one moral evil outweighs all physical evils will hardly be appreciated except by those whom religion has taught what it means for a finite being to offend an infinite. There is another false principle applied in these defences of abortion, especially in the last, namely, that a good end justifies a bad means. This is an immoral and untenable principle. Catholics and especially Jesuits are accused of teaching and acting upon it. The charge, though refuted a thousand times, is as coolly repeated as if it were acknowledged; but only by the ignorant, the malignantly prejudiced, and by those who would divert attention from their own methods of action. Here I wish to be put on record as a Catholic priest and as a Jesuit, as condemning expressly and unequivocally this principle.

But the civil law allows abortion when a consultation of physicians pronounces it necessary for the preservation of the life of the mother. The distinction between legality and morality is too often lost sight of. Human law can take cognizance only of overt acts which affect public order. Many acts are immoral though not illegal. Civil law can take no cognizance of suicide, yet is it not immoral? One of the requisites of a binding human law is that it must not conflict with the natural law or intrinsic morality; it cannot prescribe, it can give no permission for, its silence is no approval of anything contrary to it. Abortion is intrinsically wrong; no excuse for its performance can be derived from human law.

Would some perhaps say, keep down the population? If that is to be done by crime and murder, why not murder the aged, the criminal, the hopelessly infirm or insane, rather than the innocents, among whom may be some of the brightest ornaments and greatest benefactors of the human race? If public morality were at so low an ebb as to listen even to such a plea for abortion, it would be useless to speak of the subject. These are some of the reasons advanced in excuse of abortion, but in truth, are not the real causes to be found in the pleasure-seeking, burden-shirking spirit of the age, or in the desire to hide shame? This subject is discussed at length and with great ability in a volume recently published, entitled, "Moral Principles and Medical Practice," by the REVEREND CHARLES COPPENS, S. J., Professor of Medical Jurisprudence in the Medical Department of Creighton University, Omaha, Nebraska.

It is unnecessary to expatiate upon the enormity, the demoralizing effects, the extent of this crime. History has handed down to eternal infamy the name of HEROD who slaughtered the innocents of Bethlehem. He killed but a handful in comparison with the numbers that are thus slaughtered annually in any of our large cities. The causes of this crime are, besides the pleasure-loving, burden-shirking spirit of the age, the spread of baneful knowledge, the lack of religion, the decay of the fear of God in the hearts of the people, the loss of the sense of responsibility in elders, and of respect for authority in youth. The Catholic church is precise and unsparing in condemnation of it. She inflicts her severest penalty on all within her jurisdiction who are guilty of it, not only on the principal actors but also on all who physically or morally cooperate in it. She excommunicates them, and even when repentant, they can only be restored to their rights of membership by the highest ecclesiastical authorities. POPE SIXTUS V, in a Bull issued October 29, 1588, decreed the punishments inflicted on murderers by the civil and canon law against all who, by themselves or through others, shall have procured abortion, or the ejection of the immature fetus, by blows, poisons, medicines, potions, burdens or labors imposed on the pregnant, so that abortion actually followed. Further, he pronounced sentence of excommunication to be *ipso facto* incurred, and absolution from which was reserved to the Pope, on all and each man or woman, who either as principal or accomplice, for the perpetration of such a crime, shall have knowingly given assistance, counsel, favor, potion, or medicine of any kind whatsoever, or even by private letters, prescriptions or otherwise by word or sign, shall have assisted or advised it. Pope Gregory XIV, by decree of May 31, 1591, renewed the above but changed the reservation to the Bishops. Pope Pius IX, in a decree of October 12, 1869, confirmed this legislation, excommunicating "*Procurantes abortum, effectu secuto.*" The sentiments of the medical profession on this subject are no less manifest from their Hippocratic or professional oath, from the practice of all members of the profession in good standing. The combined efforts of the medical and clerical professions will never put a stop to it as long as men have free will, and are inclined to evil; but their efforts will at least put some check upon it, and they will have the conscientious satisfaction of having done their duty.

The Catholic clergy universally acknowledge that their professional relations with physicians, even with those who differ from them in religion, have ever been most cordial and satisfactory. To preserve and promote this cordiality, that we may cooperate with one another in working for the true welfare of our fellow man, has been my object this evening.

CONTAGIOUS CUTANEOUS DISEASES.*

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Inflammatory affections of the skin that are produced by contagion differ but little from other forms of dermatitis. Papules, vesicles, pustules with induration and scaling, and subjective symptoms of smarting, itching, or pain, are the common objective and subjective symptoms of an inflammation of the skin no matter what the cause may be. A large number of dermatological diseases are recognized as contagious, and in many of these the contagium has been isolated. There are other diseases of the skin which are regarded as contagious, but so far the specific virus has not been isolated. There are still other affections which from their mode of onset, course, and response to treatment, although not at present so classed, will in the near future probably be classed among the contagious diseases.

Contagion in skin diseases results from the contact of the specific germ or virus with the epidermis, or by entrance through the pilo-sebaceous follicles or sweat duct, or through some solution of continuity, and the resulting disease is always the same in its clinical manifestations, no matter how the contagium is introduced, as the one from which the virus was derived. It is well to remember, however, that contact of contagium does not always result in the development of disease. We can all recall instances where several individuals have been exposed to the same contagium, under the same conditions, and one or more have escaped the disease, and any physician with even a limited experience in the treatment of contagious affections knows of instances of ringworm occurring in a family where there were several children, some of whom would escape the disease entirely. The exanthemata furnish numerous instances which illustrate this statement. It would hardly be a satisfactory explanation of these cases to say that contact of the contagium had not occurred. In skin diseases as in other diseases, there is necessary a proper soil in which the specific virus finds the conditions favorable for the development at that time of the pathological processes of which that virus is the cause. Absence of this condition is an idiosyncrasy that for the time being protects the individual. This protection at a later exposure may not exist. Given, then, contagium in contact with cutaneous tissues and we may (with the exception stated) expect the development of the disease of which the contagium is the specific cause.

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*Read before the Michigan State Medical Society, at the Kalamazoo meeting.

The application of the theory of the germ as a causative factor in the production of dermatological affections has resulted in the isolation of coccogenous, bacilliogenous, and hypogenous germs, irritation from which has resulted in such well known diseases as furunculosis, carbunculosis, sycosis, ringworm, et cetera. With the positive knowledge of the causes of these affections has come a better management, in our methods of prophylaxis, in the use of measures to prevent the spread of the disease to unaffected portions of the body, or to healthy individuals. There are other affections of the skin, that observers have claimed due to a specific germ, among them purpura and zoster, but at present these lack confirmation, but it is probable that in the near future, the interest attending the study of microorganisms will isolate a specific germ for many other cutaneous disorders, and thus place them among the contagious diseases.

The most familiar of the contagious skin diseases are those due to the hypogenous germs, such as the trichophyton, microsporon and achorion. The contagious diseases due to animal parasites, such as the acarus and pediculus, should be easy of recognition, and yet it is no uncommon occurrence to find cases of scabies that have been treated for several months without recognizing the disease, the cases being treated as eczema. The acarus at the end of the little burrow that it makes when deposited on the skin is discovered in the text-books very easily, but I have searched time and time again in well marked cases of itch without finding either the furrow or itch mite, but this failure did not alter my diagnosis, and my treatment resulted in speedy cure. The same may be said of the pretty illustrations of the various fungi. They are so plain that it would seem as if the matter of recognition by the aid of a lens, or microscope, would be very easy, and in typical cases it may be, but these skin diseases are usually atypical, and the microorganisms are not so easily found. In typical cases the irritation resulting from these fungi, or parasites will be easily recognized without the aid of a glass.

Pustular lesions are common to many cutaneous affections. We find them in syphilis, eczema, sycosis, acne, impetigo, et cetera. The formation of pus is due to different germs in different diseases, but the lesions will differ but little from each other, and it is difficult if not impossible to tell a pustule of acne from a pustule of syphilis, or the pustule of eczema from the pustule of impetigo, but wherever pustular lesions exist, no matter what the disease may be in which they are found, it is to be remembered that they contain microorganisms that are capable of developing pustules when brought in contact with healthy skin. At the present time it is a mooted question whether these lesions are a part of the disease in which they are found, or are secondary infections. Is the pustule of variola or syphilis a necessary lesion of the disease, or are they added lesions which may increase the severity of the disease in which they are found. It is undoubtedly the fact that the specific virus of the several diseases in which they are found has rendered the cutaneous structures less resistant to the ravages of these microorganisms responsible for pustular lesions. I think that hardly any one will deny that the secondary fever of small-pox is a septic process. In the light of our present knowledge regarding the relation of microorganisms to the formation of pus, I feel warranted in making the statement that from acne to small-pox, wherever pustules exist, they are due to these germs or their chemical poison.

Eczema has not been regarded as a contagious disease, and little care has been used in its management to prevent the spread of the disease by contact with healthy individuals. In 1887 UNNA advanced the theory that the seborrheas were the result of germ infection, and he classed them under the head of "eczema seborrheicum." This theory has in part been adopted by many dermatologists, and a well defined pathological process is described in most text-books as eczema seborrheicum, and the disease is considered contagious. I believe this to be true, for cases have come under my care wherein the disease has resulted from the use of comb and brush that had been used by a person suffering from the disease. It is a common matter for several members of a family to use the same comb and brush, while the chain-fastened implements of hair dressing of the hotel wash room are used indiscriminately by hundreds, healthy and diseased alike, saying nothing of their common use in the barber shop. Eczemas not classed as seborrheic are not classed among the contagious affections, yet UNNA claims that they are due to a coccus which he has isolated from the vesicular lesions and a number of other authorities have given their adherence to this view, and the benefit that results from the use of parasiticides in the treatment of cases of eczema adds strength to the theory. The pustular lesions of the disease are undoubtedly contagious.

Acne we have not considered as contagious, but late investigators claim to have isolated a specific germ or germs responsible for the disease, being found inside the comedo plug, while the different pus forming germs are found also in the acne pustule, and these microorganisms may be the cause of the spread of the disease; at any rate the special germ in this may be considered at present unproven. Ordinary sycosis is without doubt contagious. Alopecia areata, so long regarded as due either to syphilis or some disturbance of the trophic nerves, will in the majority of cases be found of parasitic origin. No other explanation can be given for the rapid spread of the disease in barracks where scores of soldiers are affected, or in orphanages, or schools where a large proportion of the inmates are affected. These cases are probably the result of the common use of brush and comb.

It is evident to all what the bearing upon the treatment of skin diseases will be if they are regarded as contagious. In the management of syphilis, impetigo contagiosa, scabies, ringworm and favus, caution is given to prevent the spread of these diseases. We prohibit healthy and diseased from occupying the same bed, or using the same towels or comb, or brush, et cetera. We also use anti-parasitic applications to prevent the development of these diseases upon healthy persons who may come in contact with the sufferer. My purpose in this paper has been to call your attention to the many cases of cutaneous disease that are known or presumed contagious, and further to those which, from similarity of onset and behavior, give promise in the near future of coming under the same classification, an early recognition of which will have much to do in the treatment of these cases. I will venture the statement that very few general practitioners would caution a patient suffering with seborrhea sicca to be careful, because his disease may be contracted by other members of his family or his associates, if they should use anything used in dressing his hair; combs, towels, or brushes, yet I am positive the disease is spread in this way. The wonder is that so few cases result, and can only be explained upon the theory that the disease requires a special soil for its development. If this caution is necessary in the management of seborrhea sicca, it is more so in cases of ringworm or favus. In these latter, necessary prophylaxis would require that healthy persons in contact with the diseases should use some parasiticide upon parts likely to be attacked. Frequent bathings of the part with a saturated solution of boracic acid would accomplish this purpose. In cases of eczema seborrheicum spreading from the scalp over face and neck, good results follow the use of sulphur upon unaffected parts in preventing the spread of the disease. In pustular eczema the contents of the pustules are capable of developing the disease when applied to healthy portions of the skin, and care to avoid this must be exercised.

During the last two years we have had an unusually large number of cases of skin disease in our dispensary, especially attacking exposed portions of the body in children or young adults, and spreading through whole families. The disease was characterized by superficial lesions, isolated, papulo-pustular, forming at times dime-sized patches with very little pruritus. Many of these had been treated as eczema. These cases yielded very quickly to treatment based upon the theory that they were simply due to infection of one of the pus microorganisms.

In conclusion: First, there are many known contagious skin diseases in which a proper prophylaxis is not exercised to prevent invasion of healthy persons. Second, there are many diseases of the skin that from their mode of onset and behavior are so similar to known contagious affections, that the same means should be used to prevent their spread. Third, that pustular lesions, no matter in what disease they occur, must be regarded not only as autoinoculable, but as capable of developing similar lesions when transferred to healthy individuals.

100 MIAMI AVENUE.

SOME EXCERPTS AND DEDUCTIONS FROM THE RECORDS OF GYNECOLOGICAL CASES.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THESE excerpts and deductions that I have incorporated in this informal paper are from the records of over six thousand gynecological cases and about two thousand operations. While I shall express myself frankly, I wish it distinctly understood that there is not the slightest intention on my part to belittle or underestimate the work of the general practitioner; for I am fully aware that he can teach me many things, more particularly outside of my own specialty.

The general practitioner and specialist are mutually helpful. The latter has opportunities to see a large number of cases in his own line of work, and, by grouping these, is able to deduce practical results, which, I trust are of value to general practitioners. When I was in general practice, I knew how difficult it was to try to cover all branches of medicine, and now I realize that I do not know all of gynecology, notwithstanding that for years I have devoted all my time to that one branch of medical science.

In writing from so many cases, this paper will not permit of more than brief citations, reports of cases, and deductions from single cases or groups of cases.

THE USE OF NORMAL SALINE SOLUTION.

FIRST, I wish to add my testimony in favor of the use of warm normal saline solution after or during operations, when there is shock, or liability of shock; and to be injected into a vein, into the cellular tissue, into the bowel, or turned into the abdomen *pro re nata*. A quart of this warm solution left in the abdomen has a most excellent effect in reviving the patient, promoting early action of the kidneys, and, if perchance, there should be any septic material left behind, it dilutes it, and renders it much less liable to infect. Saline enemata after operations do have a very beneficial effect in relieving shock, diminishing thirst, and promoting the action of the kidneys. I very frequently order these and have them given slowly so they will be retained; the temperature of the solution varying from 100° to 112° Fahrenheit, according to condition of patient. Of course when an immediate effect is desired, injection into the cellular tissue or vein is best.

HERNIÆ AFTER ABDOMINAL OPERATIONS.

AFTER several hundred abdominal operations, I have had less than one per cent. report herniæ; at least I have heard of less than one per cent. directly and indirectly. Judging from the reports of others, this is a remarkably small number. I attribute my success in this line not so much to my skill as an operator as to the precautions taken the first month after the operation, and the precautionary advice instilled into the patients. I make an incision no longer than is necessary to do the work well; close the peritoneum with continuous catgut suture, and the other structures *en masse* with interrupted sutures; apply first dressing and then adhesive straps, then the pads, and the many-tailed bandages over all. Patients are not allowed to sit up for three or four weeks; the adhesive straps and outer bandage are worn for two weeks longer, and afterward the patient is to wear a well-fitted abdominal supporter for a year or more and avoid heavy lifting, jumping, et cetera.

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* Read before the MICHIGAN STATE MEDICAL SOCIETY, at the Kalamazoo meeting.

RETRODISPLACEMENTS.

Every year I have a large number of patients with retrodisplacements of the uterus, and a large majority have been properly diagnosed before I see them. Some have had "local treatments," pessaries, et cetera, but have not been cured. About twelve or fifteen per cent. have been told that no harm will occur from these displacements. I wish to state positively that the changes in the uterus by these malpositions are not the most harmful—although the uterus may be kept engorged and sensitive, and reflex irritability result—but the ovaries are displaced too; their circulation is obstructed, and the reflex troubles from the reproductive system are increased. What is still worse the ovaries undergo degeneration, and later, this may necessitate their removal and the unsexing of the patient. In this malposition, a uterus is more apt to become infected, and if infected, the tubes, ovaries and peritoneum are much more liable to become diseased.

Again, the proper action of the bowels is liable to be interfered with, and constipation and perhaps hemorrhoids result. If in this condition operations are performed for the relief of the hemorrhoids, the benefit will be but temporary at best, for the cause has not been removed. In such cases, laparotomy, breaking up adhesions, if any, and making an anterior suspension or fixation are indicated. If these are done, the number of hemorrhoidal operations will be diminished and those that are necessary will give better and more permanent results, if other conditions are favorable.

Again, mucocolitis is often caused by or increased by retrodisplacements of the uterus, and the first and most important step for relief of this is to replace and keep in place the uterus.

I believe the most fruitful avoidable cause of these retrodisplacements is keeping patients in the dorsal position too much after labor at full term and sometimes after abortion. The uterus is then heavy, the ligaments relaxed, and gravity does the rest. When patients assume the upright position the intestines drop down in front and malposition increases. I have asked hundreds of these patients if directions were given them about changing position and not to lie on the back too much after labor. More than half have replied in the negative. Of course it is well to exclude some whose memories did not serve them well, but then there would remain a large number of uninstructed with regard to this exceedingly important principle.

ABORTIONS.

For the last ten years I have taken the trouble to inquire of patients concerning their treatment after abortions, and in hundreds of cases have learned that not one-fourth of the precautions were taken as after labor at full term. I believe they should have more care and attention than after a full-term labor. Nature knows how to take care of a ripe uterus, but she should have the most favorable conditions for proper involution after abortion. Many ills date back to abortions imperfectly or improperly treated, and sometimes entirely neglected, as when physicians are not even called. Much of this is due to the prevailing opinion among nonmedical people that after abortions little or no care is needed. As physicians, we should explain the reasons for proper care and insist upon its being carried out thoroughly, for the derangements that result are many and far-reaching.

USE OF UTERINE STEMS.

JUDGING from my records there are some physicians who do not exercise due aseptic precautions when using uterine stems for obstructive dysmenorrhea. I have collated several cases wherein stems were introduced into the uterus at the office and patients allowed to walk home.

In the last year I have seen two most marked examples of septic infection following their careless use, and every year see bad results from their use without proper precautions. I believe that whenever a stem is to be inserted into the uterine canal that the patient should be prepared with about the same care and thoroughness as for a hysterectomy. The canal should be divulsed under anesthesia, the uterus curetted gently or thoroughly *pro re nata*, and thoroughly irrigated before the stem is introduced; then the vagina should be gently packed with antiseptic gauze, and the patient should be kept in bed while the stem is *in situ*. I have used these stems many times with these precautions and without bad results. The evil effects of obstructive dysmenorrhea are so great that I regard this mode of treatment of much importance and safe, when properly done. Some recommend marriage for these patients but they too often remain sterile, the suffering continues, and, under the existing conditions, the marital relations increase the evil effects of obstruction. I have seen many pitiable illustrations of this in the way of nervous wrecks.

LACERATION OF THE PERINEUM AND ITS RELATION TO IRRITABLE BLADDER AND SUPPOSED CYSTITIS.

I HAVE operated upon more than five hundred patients for laceration of the perineum and the resultant complications, ranging in age from sixteen to seventy-nine years. In a large percentage of these several years have elapsed between the time of laceration and restoration. Many of these patients complained of irritable bladder and not a few had been treated for cystitis. An examination of these patients proved that less than three per cent. really had cystitis; cystoceles had formed, the bladder could not be completely evacuated, the residual urine decomposed and caused frequent and sometimes painful micturition. Early perineorrhaphies not only prevent prolapse of the bladder in most cases, but if the operation is done before the muscles atrophy the results will be much better.

Another class of patients who come to me with the statement that they have inflammation of the bladder and yet have not, are those with uterine tumors, inflammatory deposits, or adhesions encroaching upon the bladder, and causing frequent and sometimes painful micturition. I have seen so many of these patients who have had their bladders irrigated, taken diuretics, et cetera, for cytitis, when it did not exist, that I wish to call special attention to the advisability of examining the urine carefully and exploring the bladder and adjacent structures before advising treatment or treating for cystitis.

A patient came to me from Indiana with the following history: A woman, aged thirty-four years. She had had no children but had experienced two abortions. She said she had suffered from cystitis for six years. She complained of frequent and painful micturition and sometimes obstructed flow. She had had her bladder irrigated hundreds of times, and had taken much medicine for supposed cystitis. An examination revealed a fibroid tumor of the uterus, the size of a hen's egg, located so as to press directly upon the base of the badder and distal end of the urethra. I split the uterus anteriorly, enucleated the tumor, and the patient made an excellent recovery and had no further trouble with the bladder. I might cite many similar cases to show how causes outside of the bladder produce results simulating cystitis.

MALIGNANT DISEASES OF THE OVARIES.

It has been but a few years since we were taught that nearly all ovarian growths were not malignant. Recently more thorough examinations made of ovarian tumors have proven that about fifteen per cent. are malignant, the percentage of malignancy varying, according to different authorities, from ten to twenty per cent. It has also been well established that ovarian tumors may be benign in the earlier stage and malignant subsequently; thus early and thorough removal is very important. I have removed many malignant ovarian tumors, and some of them remarkable for rapidity of growth and tendency to involvement of other parts.

I wish to report a few cases illustrating these points: A girl aged fifteen years was apparently well and in school until six weeks before I saw her. Five weeks previous she first noticed an enlargement in the lower abdominal region. For two weeks she had been losing flesh and strength rapidly, and the abdomen had increased rapidly in size during that time. The tumor extended to the ensiform cartilage when I examined her, and presented a boggy feel and irregular outline. The lower end of the tumor filled the right side of the pelvis. The abdomen was extremely sensitive. I opened the abdomen with the assistance of DOCTORS LYNDS and LAHUIS, and removed three quarts of bloody fluid and a large irregularly-shaped friable tumor which weighed forty pounds. There were many small secondary deposits in the omentum and mesentery. It was a desperate case, requiring an incision from the pubis to the ensiform cartilage, but by rapid work and transfusion the patient recovered from the operation and went home in four weeks. The growth was an adeno-carcinoma of the ovary (medullary variety). Patient died three months later.

Another patient, aged forty-five years, and the mother of nine children, the youngest of which was seven years of age, had passed the menopause four years previous. Only four weeks before I saw her she first noticed a small tumor in the lower right abdominal region which grew rapidly, and at the end of the four weeks extended beyond the umbilicus. I removed it with the assistance of the same physicians. The tumor was of the same kind as the previous one, and the patient died a few weeks later. DOCTOR WARTHIN, pathologist, reported that there were in the patient multiple primary carcinomata, one in the intestines and one in the ovary.

Another patient, operated upon in Dowagiac at the age of fifty, and one in Jackson about the same time, aged fifty-nine, for growths of the same nature, prove that the young, the middle aged and those older, are subject to these rapidly growing carcinomata of the ovaries.

Another very interesting case, a woman aged thirty-one years, having one child twelve years old, was sent to me with lacerated cervix and lacerated perineum. Examination revealed a hard tumor of the left ovary. I removed the tumor January 8, 1896. It was ten inches in circumference one way and seven inches the other. The interesting feature of the case is this: The tumor was distinctly fibroid except two small centers about two inches apart which were found by DOCTOR WARTHIN, the pathologist, to be sarcomatous. The patient made an excellent recovery and there has been no return of the disease, proving the value of an early removal.

There are still some who use absorbents, cathartics, diuretics, electricity and tap for the cure of ovarian tumors, and, as a rule, patients are thus rendered more unfavorable for operation—THE treatment for ovarian tumors—for the kidneys are overworked, strength is reduced, adhesions produced, or the operation delayed beyond the most favorable time. I have operated upon five just such patients within six months. I have also operated upon half a dozen patients with multilocular cystomata which were apparently benign in the beginning but developed malignancy later on. These growths may not be malignant in the early stage, but later carcinoma may ingraft itself upon them and they become decidedly malignant on account of the continued pathological condition. All of these facts emphasize early and thorough removal.

FIBROIDS OF THE UTERUS.

SOME say that fibroids of the uterus do not kill, and that they will disappear at the menopause. I know that some do kill, also that many do not disappear at the menopause, but increase in size and become more serious. In examining the records of one hundred cases operated upon and one hundred not treated surgically, I find the number of deaths from hysterectomies is perhaps one or two more than the number of *complete* deaths from the tumors. But many of these not operated upon wait years for a delayed menopause that does not give the expected relief, or eke out a miserable existence of a "living death."

I do not claim, after the many cases I have performed hysterectomies upon, that "*all* goes well with *all*," but I do claim that the sum total of suffering and complications after surgical means are very much less than when they are treated by nonsurgical methods or no methods at all.

Again, it is impossible to differentiate clinically between a soft fibroid and a sarcoma (as both grow rapidly), or a fibroid and a fibro-sarcoma. I operated upon a patient recently who had a myo-fibroma, submucous, and a fibro-sarcoma, subperitoneal, the latter already ulcerated through the peritoneal covering, and with adhesions to the intestine.

CANCER OF THE UTERUS.

EVERY year I examine from fifty to seventy-five patients who have cancer of the uterus. In one week this year I examined six women in that condition, and have examined as many as twelve in one month, and the saddest feature is that two-thirds or more are so far advanced that operative measures are not indicated except, perhaps, curetting or excavating and cauterizing.

I have seen five cases in less than eight months, with cancer of the uterus, under thirty years of age, and three of these had "local treatments," weekly or oftener from three to fifteen months before I saw them, and diagnosed cancer. When I examined them the growths were so far advanced that nothing but palliative measures were indicated. The age of the patient sometimes deceives the general practitioner. I would urge him to be on the alert, because whatever is to be done of permanent value must be done early. Whomsoever these patients may go to ultimately for consultation and treatment, many of them are divided in the early stage, among the general practitioners. Total extirpation of the uterus early is *the* treatment; it is positively not a disease to go to the surgeon as a *last* resort, for delay means early death.

I believe that lacerations of the cervix with accompanying eversion, erosion' infiltration and inflammation is the most fruitful cause of cancer of the uterus. I have been advocating for years that these lacerations should be properly operated upon early, and I am growing more emphatic every year. I have operated upon more than five hundred such cases, and hope to live to operate upon five hundred more. I urge operation for the present beneficial results, and also as a most valuable preventive of that dreaded disease, cancer of the uterus.

DEFICIENT MENSTRUATION.

A CLASS of patients with the following symptoms I have found difficulty in relieving permanently: Young women ranging in age from twenty to thirty-five. They are well developed, florid complexion, full habit, strong, with good appetite, and generally with good digestion and assimilation. They follow literary pursuits or are with sedentary habits. Their periods are scanty, gradually diminishing in amount; they gain in weight, sometimes rapidly; they complain of fullness in the head or headache; become confused easily, and there is often a feeling of general fullness. These symptoms are usually exaggerated at the time of their scanty periods. Their reproductive organs are generally well developed and normal. I have tried several plans of treatment but with only partial success. I think more vigorous exercise out of doors, modified somewhat during their periods, has given the most satisfactory results.

In conclusion, I wish to make another plea for more conservative work upon the ovaries. I feel that I have a right to do so after studying over six thousand gynecological cases before operation and over two thousand after operation. We can unsex a woman in a few minutes, but after the ovaries are once removed we cannot replace them in a lifetime. I have advocated and practiced conservative work upon these organs for many years, and with increased experience I see more clearly than ever before the reason for so doing. After observing the unpleasant nervous and mental disturbances which arise in many cases after an early menopause is suddenly established, I am thoroughly convinced that whenever it is possible, some healthy ovarian tissue should be left, for it is a great conservator of sexuality and general well-being with most patients.

THE TECHNIQUE OF ALEXANDER'S OPERATION.*

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THE one all-important indication in the treatment of backward displacements of the uterus, is to replace the uterus in a position as nearly normal as possible. I believe this can be accomplished, in suitable cases, better by Alexander's operation than by any other. Several objections to this operation have been adduced by various surgeons who have not obtained the results they desired by its use. That these results were because of a faulty technique, I shall attempt to show; and to this end I shall first describe the operation as I think it should be made, and then defend my position.

The operation consists, as all know, in shortening the relaxed round ligaments through external incisions. The guide to this incision is the pubic spine. This can always be found in thin persons easily; in those with a thick layer of fat by introducing the index finger under the tissues at the upper commissure of the labia majora and carrying it up to the pubis. The incision must be parallel to Poupart's ligament, directly down to the spine, and must be long enough to lay bare the external ring and the intercolumnar fibres of the fascia covering the inguinal canal. The length of the incision through the integument will vary accordingly to the amount of fat. Divide these intercolumnar fibres nearly the entire length of the canal. To find the ligament, make strong intermittent traction downward and inward on the labium of the corresponding side, first separating the two columns of the fascia by tenaculæ. The tissues in the canal thus being exposed, the ligament will be seen to move in response to the traction on the labium, and can easily be picked up with forceps. Carefully separate it from the accompanying nerve, muscular fibres and connective tissue, and draw it through the internal ring. This is generally easily accomplished in "suitable cases," that is, cases wherein there are no pelvic adhesions. As the ligament is drawn through the internal ring, it is accompanied by the adherent peritoneum. This must be carefully stripped back as far as possible. This is important. Draw the ligaments out till the uterus is strongly anteverted, stripping the peritoneum back as thoroughly as possible, then relax the ligaments till the peritoneal envelope is entirely free from the canal, that is, till there is "no dimpling" of the peritoneum into the internal ring. Now, fasten the ligaments in the canals in their new positions. This I do by two sutures of fine silk to each ligament passed through one side of the fascia, three or four lines from its edge, then through the ligament in such a way as to separate the fibres rather than cut them, and out at the corresponding point in the other pillar of fascia. Leave these united till the edges of the facia have been accurately united by fine chromicized catgut or kangaroo tendon, then tie the silk sutures so as to bring the ligament up close to the under side of the wound, but not to put tension on them. The final step is to unite the integument by interrupted sutures of silkworm gut, so placed as to unite the tissues in such manner as will leave no dead spaces.

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*Read before the Michigan State Medical Society, at the Kalamazoo meeting.

This completes the Alexander's operation as generally made, but is not perfect in that it allows too great mobility to the lower part of the uterus, because of the overstretching of the utero-sacral ligaments. Therefore, before making the operation above described, I ask my assistant to draw the cervix forward under the pubis. I then make two incisions behind the cervix in a line with the utero-sacral ligaments, through the mucous membrane, and dissect with the finger to a depth of perhaps an inch. Then pass a full curved needle, armed with heavy catgut, deeply through the wound, from one angle to the other, picking up the relaxed utero-sacral ligaments if possible. I leave the sutures untied till the other steps of the operation, as described above, are made. Then while an assistant separates widely the lips of the wound each suture is tied, thus drawing the cervix back and ultimately holding it there by the broad cicatrices formed by the wounds.

Alexander's operation thus made would theoretically remedy a nonadherent retroverted uterus in the most perfect manner possible; but various objections to the operation have been advanced which have proved so powerful to many as to cause them to abandon the operation. These may all be grouped under these four heads:

(1) Difficulty in finding the ligaments,
(2) Liability to the occurrence of hernia,
(3) Tendency of the uterus to again retrovert; and
(4) Frequency with which suppuration occurs.

We hear much less now than formerly of the difficulty of finding the ligaments, as their location in the canal is nearly constant, and they are more easily recognized than formerly. But that there may be as little delay as possible, and the least possible injury to the other structures of the canal, I have adopted the rule of always locating the ligament by traction on the corresponding labium before touching the structures of the canal. Since adopting this rule I have had no trouble.

The objection that Alexander's operation predisposes to hernia is not well founded if the operation is performed as described above. The keynote to successful prevention of hernia is thorough stripping back of the peritoneum from the ligament, and sufficient relaxation of the overstretched ligament to carry the peritoneum back fully into the abdominal cavity. Bear in mind that the internal ring is not enlarged, but on the contrary is more closely filled than before the operation, as almost invariably the portion of ligament drawn out into the canal is much larger than the thin atrophied portion of ligament occupying the ring and canal before operation. But if there is a slight pouching of the peritoneum into the canal, it is a direct invitation to hernia. If, however, the peritoneum is well stripped back, leaving not even a dimple at the ring, the tissues at that point will be firmer and more resistant than before, and I do not believe hernia would result, even if the external fascia were left ununited. But to render everything as secure as possible, the fascia is accurately united, and the line of union reinforced by two buried silk sutures. These silk sutures have thus a double function, first, to reinforce the line of union in the fascia; and second, to retain the ligament in its new position. This end has been sought in numberless ways by different operators, but it is useless to pass these various methods in review, as my object is simply to present what I believe to be the best method.

The only valid objection to these permanent silk sutures is the trouble they might cause should suppuration follow the operation. It is true that suppuration too often occurs in these inguinal wounds. For this there may be various causes, but all may be embraced under these three heads:

(1) Infection at the time of operation from unclean hands, instruments or material.

(2) Infection after operation because of the wound; or

(3) Faults of technique

The first two cases I shall not discuss, as the remedies are obvious. But I mean by faults of technique that suppuration often occurs by reason of dead tissue or "dead" spaces. Dead tissue produced by tearing and mangling of the structures of the canal in a blind search for the ligament. Dead spaces, because in laying bare the fascia the overlying connective tissue is stripped away so far that unless care is exercised dead spaces are left when the integument is united.

When the operation is strictly aseptic; when the ligament is found and separated from the other structures of the canal with the least possible violence; when the connective tissue overlying the fascia is carefully and accurately united, as well as the integument, and when the wound is so dressed and secured as to prevent postoperative infection, there will be no suppuration, and anything less than this is an imperfect operation.

But we are told that suppuration may occur in the wound months and even years after the operation if buried sutures are left. This may occur when silver or silkworm gut is the material used, because the stiff ends of the sutures will be a constant source of irritation in these movable tissues. But when fine sterile silk is used and the ends cut short, I do not believe there is the least danger of late suppuration.

The objection that Alexander's operation is not a permanent cure of retroversion had more force formerly than now. I have seen one case (and only one) in my practice before I used buried sutures. But when the ligaments are well drawn out and held by buried sutures of silk, and when the cervix is held back by the formation of adhesions behind it, I believe the cure is permanent. Of course, if there be a rectocele with a perineal laceration, these must be corrected in order to remove as far as possible all conditions that predispose to retroversion of the uterus.

GALL-STONE SURGERY.*

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Gall-stones are found in the gall-bladder, gall duct, common duct and rarely in the hepatic duct. These organs are all located within an area two inches square beneath the anterior border of the liver. They are easily exposed by an incision through the outer border of the right rectus abdominis muscle, commencing at the costal cartilages and running downward to an imaginary line passing transversely through the umbilicus.

When stones are found in them, these structures are more or less distorted and may occupy a larger or smaller space than I have mentioned. In one instance I found a gall-bladder enlarged to a long diameter of five inches and a short diameter of four inches approximately. The cystic, hepatic and an inch of the common duct were each enlarged to the size of my finger. A smooth, almost round stone was seated over the duodenal end of the common duct, making a perfect ball valve. The patient was a great sufferer from periodical jaundice and pain, and it is fair to assume that during her intervals of good health the stone did not choke the passage of bile into the intestine. The great enlargement of the bile conduits and receptacle is evidence of numerous and prolonged attacks of obstruction by the stone. The history of this case showed that she had suffered from jaundice with pain and swelling in the region of the gall-bladder for more than ten years. There was but one stone and it was easily removed with forceps passed into the common duct through an incision in the gall-bladder. Her recovery was as prompt and complete as any I ever saw. But usually gall-stones are found in much smaller gall-bladders than the normal. Adhesions between them and intestines and omentum often complicate the anatomy of the regions which the surgeon must study, not with his eyes and books, but his index finger. It may not be considered best practice to remove the stone no matter what part of the biliary tract it is found in. Consequently, all operations seeking to establish an unnatural channel between the gall-bladder and the intestine are of secondary consideration and should be performed only when the stone cannot be removed and no part of the biliary mucosa is continuous between the intestine and the hepatic ducts, for, no matter how long a wound one may make in the biliary duct, that wound will heal and leave a pervious channel for the passage of bile, providing it does not include in its path the removal of the greater part of the mucosa, the principal office of which is to maintain a channel.

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*Read before the Detroit Academy of Medicine.

That gall-stones have their origin in an irritative process in the mucosa of the gall-bladder by microorganisms which have been driven with the reflux of bile from the duodenum to the gall-bladder, and a consequent disturbance of the equilibrium of the bile elements, is a reasonable safe conclusion. Therefore, it is probable that the earliest symptoms of gall-stones, will indicate the presence of the stone in the gall-bladder, and that their removal from that organ should be accomplished early in the history of the case. This can usually be easily done by incising the gall-bladder fundus through the incision in the abdominal wall already described and searching for the calculi with scoop or forceps guided by the index finger inserted deep into the wound alongside the gall-bladder. The finger should in every case explore the cystic and common duct before the fundus of the gall-bladder is incised, and with it the calculi both hard and soft should if possible be pushed toward the fundus so that they can be readily removed after an incision in the most accessible part of the gall-bladder.

Before making that opening, soft sterile gauze should be packed into the wound so as to prevent the escape of bile into the peritoneal cavity. When the gall-bladder is open to receive the scoop or forceps the margin of the wound should be caught with forceps so that the organ can be drawn forward and the escape of its contents controlled. After the calculi have been removed a soft flexible number five bougie should be inserted into the gall-bladder drawn by the forceps gently toward the operator, and with the finger on the cystic and common duct, it should be guided gently through those organs, establishing definitely the continuity of the diseased portion of the biliary channel. Then if the channel is free and not obstructed by peritoneal adhesions adjacent to it, the wound in the fundus should be closed with sutures. But if there is a deposit of peritoneal adhesion about the gall duct, they are likely to be twisted, bent and distroyed so that the channel will be choked until the adhesions have been absorbed and it will be better surgery to stitch margins of the wound in the gall-bladder to the parietal peritoneum and establish a biliary fistula which will close spontaneously as soon as the peritoneal adhesions have disappeared. Such adhesions are the result of migration through the biliary mucosa into the peritoneum and are most easily cured by securing patency of the biliary tract and changing the diet of the patient. If the stone is in the cystic duct, it can, if not too large, be removed with forceps passed through the gall-bladder, but when too large to be dislodged in that way an incision should be made directly upon it, dividing the walls of the ducts sufficiently to permit of its ready removal. Gauze should first be packed around the regio of the proposed incision so as to control any discharge which may follow or accompany the removal of the stone. Fine continued sutures passed with a short curve needle may then be used to bring the cut margin of the duct together, but the most important thing to do is to pass the bougie and secure patency of the duct from the wound to the intestine. To this end I have in sundry cases with my fingers separated the peritoneal adhesions from about the common duct, and made the way for sound or bougie very much as those instruments are guided through an obstruction in the prostatic urethra. When patency is secured little or no strain falls on the sutures used to close the cystic or other duct which may be wounded to remove a gall-stone.

Thus far my remarks have been based on the assumption that the gall-stone was easily accessible, that it could be readily felt with the exploring finger and that the duct which obtained it could be easily reached and incised. There are, however not a few cases in which the stones are found with great difficulty, owing to their depth beneath intestines and inflammatory deposits, and an incision to reach them would pass through unknown structures, entailing serious hemorrhage difficult to control. Sometimes the duodenum rides over the calculus, which is otherwise deeply covered by adhesion. Then the stone can be most easily reached by first opening the duodenum, finding the opening of the common duct, passing a probe to the stone and slitting the duct on the probe until the stone can be removed, a procedure first described by McBurney. This oval calculus, about three-fourths of an inch in its long diameter, was removed in that way three years ago. The patient made a sound recovery. After its removal no sutures were passed in the wounded duct or that part of the duodenum wounded with it, but the wound in the duodenum through which the orifice of the duct was reached was closed with a continuous catgut suture.

I am reluctant to close this brief review of my practice in gall-stone surgery without saying something about the liability of gall-stones to recurrence. In my early experience I was quite satisfied when I had removed the stone or stones and not infrequently was I successful in pushing small calculi into the intestines. These cases sometimes relapsed. From one woman now living and well I re-opened the gall-bladder and removed calculi four times. The last operation was different from the preceding one in this that I secured the patency of the ducts by separating adhesions and passing the bougie, and by advising her to follow a radical change of food. From a diet of wheat bread, potatoes, sugar, milk, beef, coffee and tea, she was changed to a diet of corn, rice, oats, fats, fruits, hot and cold distilled water and fruits without sugar, and I think that the change in food, which has been practically carried out in all my recent cases, has had a great deal to do in preventing a recurrence of the gall-stone.

THE OPERATION OF SHORTENING THE ROUND LIGAMENTS FOR THE CURE OF RETRODISPLACEMENT AND PROLAPSE OF THE UTERUS.*

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Perfected method and technique in the science and art of surgery are bringing to the front operations, many of which, while having been of more or less value, have either become obsolete or only attempted by the most expert operators, because of faulty method or techniqe which has clung to them as a result of having been introduced by their originators. The so-called Alexander's operation is one of these, and I propose to call your attention, tonight, first, to the history of the development of this operation, and then to the operation in its perfected state.

The operation was first scientifically described by Doctor Wm. Alexander, of Liverpool, who secured its adoption by the profession, but the idea is said to have been originated by **Alquie**, of Montpelier, France, who read a paper, describing the operation, before the Academy of Medicine of Paris, on November, 17, 1840. The operation was considered dangerous and impractical, and apparently nothing was attempted with it by the profession until **Alexander** performed his first operation, December 14, 1881, which was published in the *Liverpool Medical Journal*, June, 1882. **Adams** had already described the operation in the *Glasgow Medical Journal*, June, 1882, but his first operation was not performed until two months after **Alexander's**. Hence, these three names are associated with the early history of the operation, and in some writings, especially the German, all three names are attached to it, and it is called by them the "**Alquie-Alexander-Adams** operation."

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*Read before the Detroit Medical and Library Association.

It was received not only without enthusiasm in England, Germany, and France, but much was done at first to discredit it. A most remarkable statement was published by **Doleris** and **Ricard** in the *Union Medical*, November 24, 1883, in which they state that, basing their opinions on the dissections of twenty-eight cadavers, they found that "starting from the internal ring there exist, properly speaking, only indistinct vestiges of the round ligaments; none in the young subject, none in thin women, not to be found, if they exist, in very fat subjects, but a little more evident in certain old women and the post-puerperal period." **Doleris** has since become an ardent partisan of the operation which he then declared impracticable.

Alexander directed that the incision, about an inch and a half in length, should be made over the pubic spine down to the muscles, the nonresistant external inguinal ring found with the finger and laid bare, and the cellular layer which stretches between the pillars of the ring, cut, avoiding carefully the intercolumnar fibres which limit the ring above and externally. This exposes a cushion of fine yellow fat, inside of which the ligament is to be sought. He says it may be recognized by its reddish cord-like aspect, when it can be grasped with forceps and isolated with a blunt instrument. **Pozzi** says the ligament is more easily found toward the upper limit of the external ring, and recommends searching for it here with a strabismus hook. When found the ligament is to be drawn out to the extent of about ten centimeters, the fibrous attachments, which prevent it running freely, cut with scissors as they appear, the uterus held in position by an assistant by means of a sound inside the organ, while both ligaments are sutured with silk to the pillars of the respective rings and the redundant parts cut away. The external incision is closed with catgut.

Casati, of Rome, proposed a modification of the technique by making a curved incision from one ring to the other, crossing the extremities of the excised ligaments, and fixing them with a deep continuous catgut suture. **Doleris** adopts a similar proceeding, with the difference that the crossing and suturing of the ligaments is made under the skin, the ligaments being drawn through by means of forceps which are thrust through the tissues, under the skin, from one ring to the other. **Segond** passes the end of the ligament through two small button-holes made in the pillars of the ring and ties the ligament in these, the knots being made still more secure by the use of several sutures. **Alexander** recommends the use of a stem pessary to keep the uterus straight and a Hodge to insure anteversion during the month that the patient is recommended to remain in bed.

The method of **Alexander** is apparently not all smooth sailing, the great difficulty being in the uncertainty of finding the ligaments, or, when found, their extremely attenuated condition at the external ring, causing them to break on slight traction. **Kelly** (*American Journal of the Medical Sciences*, December, 1896) states that the disadvantages of the operation are that the ligaments are sometimes found with great difficulty or not at all, and that the relapses are not infrequent. I find no mention of the operation in his book. To these A. H **Goelet** (*Medical Record*, August 29, 1896) adds the time the operation requires; the doubt about finding the ligaments sufficiently strong in their long overstretched and atrophied condition to bear the strain thrown upon them; the prolonged convalescence necessary before shortened ligaments can be regarded sufficiently strong to support the uterus; the risk of hernia; and the cicatrices that may become the seat of keloid.

As indicating an accident that is liable to happen in this method of attacking the ligament at its most attenuated portion, G. M. EDEBOHLS (*American Gynecological and Obstetrical Journal*, December, 1886) says that when a round ligament tears in drawing it out, the retracted end should be sought for and recovered, if possible, at the internal ring. If this should prove impossible, the peritoneum should be incised at the internal ring and the ligament sought for and brought out of the abdomen with the aid of a finger or two, assisted, if necessary, by slender forceps. When the ligament tears out of the uterus, or so near the latter as to leave a stump too short to be drawn out and properly fastened, three courses are open: the first is to shorten the opposite ligament and trust to one shortened ligament to keep the uterus forward. The second is to open the abdomen in the median line, unite the torn ends of the round ligament, or attach the pulled-out end to the uterus by suture, and complete the operation in the usual way. The third is to substitute immediately the next best retroversion operation. MUNDE says ("Clinical Gynecology," page 505): "There are several objections to this operation, and they are: That it is an uncertain one, for one never knows when one will find thick, strong, easily tractable ligaments, or ligaments which are thin, adherent, readily broken, and can then be no longer recovered. This may at times be the fault of the operator, but also at times of the anatomical structures themselves, and no man can tell before he has opened the inguinal canal and found the ligaments, whether they will be thick, or thin, weak or strong, easily sliding in their sheaths or adherent along the whole track."

These observations certainly make the operation appear very formidable and beset with difficulties enough to prevent its general adoption. Medical writers generally have followed the plan of operation as laid down by ALEXANDER, and have sought for the ligament at the external ring. The first change in this method that I have been able to discover in medical literature is that, in the *American Journal of Obstetrics*, 1888, J Frank and Newman directed the incision to be made directly to the internal ring. Also in "An American Text-Book of Surgery," page 987, the author says: "The location of the internal ring having been indentified a two-inch long icision through skin and superficial fascia, parallel with POUPART's ligament, should be made over the internal ring, about one-third of it being to the outer side of the ring, and the other two-thirds running along the line of the inguinal canal. The aponeurosis of the external oblique muscle being exposed, and the diverging fibres of the roof of the inguinal canal being identified, the inguinal canal is freely laid open, so as to expose the internal ring. The overhanging fibres of the internal oblique muscle are to be drawn upward, so that the tissues emerging through the ring may be clearly identified. A little teasing of the connective tissue that binds together the parts, will soon make plain the outlines and the structure of the round ligament as it runs forward along the floor of the canal." The balance of the article is mainly a description of technique relating to the pulling out and making fast the ligament which does not materially differ from that laid down by ALEXANDER.

This changing of the place of incision to a point where the ligament is of sufficient size and strength to be safely handled was an improvement, but the free laying open of the inguinal canal and the necessary teasing apart of the tissues made objectionable features which had to be eliminated if the operation was to be made the success that it now is. In its present status it is surely a success, both from a surgical and an esthetic point of view. To achieve this desideratum, all that was necessary was to make a short incision—an inch or less—a small puncture through the roof of the inguinal canal, and through this draw out the ligament with a tenotomy hook. When the incision is made in the right place the operation is practically bloodless and the ligament always to be found under it. To DOCTOR J. H. KELLOGG, of Battle Creek, Michigan, belongs the credit of devising this method of performing the operation, which he describes in detail in a paper read before the State Medical Society at its meeting in 1897, in the transactions of which his article can be found.

After the preparation of the patient, which should be by first shaving the pubis, and otherwise in every partiular as for an abdominal section, the operation in brief consists of the following steps:

(1) The incision: This is made about an inch in length (somewhat shorter in thin subjects) parallel with and just above Poupart's ligament, and with its outer end about half an inch inside of the internal ring. It should pass through skin, superficial fascia and fat, down to, but not including, the loose tissue which overlies the tendon of the external oblique. The location of the ring is determined by the pulsation of the femoral artery which passes just under it.

(2) The separation of the wound transversely by the use of eye-retractors mounted on long handles.

(3) Clearing away the loose tissue overlying the tendon of the external oblique by pulling it from side to side longitudinally with the wound with blunt hooks, and catching with the retractors each successive layer as it is raised up by the hooks.

(4) Puncture, one quarter of an inch in length, of the tendon of the external oblique with the scalpel at a point just above Poupart's ligament, and at the outer aspect of the cleared space.

(5) Insertion of the blunt hook, which should be passed downwards close to the floor of the inguinal canal, then inward and upward, and the ligament with its surrounding investment of fat will be brought up out through the opening in the tendon.

(6) Isolation and pulling out of the ligament, which is facilitated by stripping back the adipose and cellular tissue with the blunt hook as it emerges through the opening, and cutting with scissors any tendenous attachments which impede its freedom. Care should be observed during this maneuver not to cut the cuff-like prolongation of peritoneum which forms the infundibuliform process and the canal of Nuck, and which is usually dragged from the internal ring, and makes its appearance as the ligament nears the uterus. If the ligament still comes out easily its attachments can be carefully snipped with the scissors and the cuff rolled back.

(7) Anchoring the cord: This is done by DOCTOR KELLOGG by means of silkworm-gut sutures which are passed from the skin surface, and which also serve to close the wound, although he also uses superficial catgut sutures for the latter purpose. I use buried kangaroo tendon sutures for fastening the ligament. Otherwise I follow the directions of DOCTOR KELLOGG. The loop of ligament, which will be from two to four inches in length, is held up by the assistant while its proximal portion, as it emerges through the opening in the tendon, is made fast to this structure by one suture which is passed first through aponeurosis, then the ligament, so as to grasp about two-thirds of it, and then the aponeurosis on the opposite side. An aneurism needle is now passed in and out through the aponeurosis at the inner aspect of the wound, and through these two openings the loop of ligament is drawn by means of a heavy silk thread, turned backward upon itself and made fast to the aponeurosis by one or two more sutures, according to its length.

(8) Closure of the wound: This I do with fine catgut using the button-hole stitch, after which the wound is sealed with iodoform collodion reinforced with a layer of gauze, which is saturated with the collodion, thus making a firm and impervious seal. Before using the collodion, the surface of the skin where it is to be applied should be bathed with sulphuric ether, which removes any oily material, and thus insures the firm adhesion of the seal. A pad of gauze and a T bandage completes the dressing. The seal is removed about the tenth day, and as it is stripped off, the catgut sutures, which by that time are absorbed

beneath the surface, come away with it. The time required by this method of operating is very much less than by the ALEXANDER method. If anatomical points are carefully noted, the ligament will be seized at the first trial and the operation quickly completed. Delay usually results from inability to properly locate Poupart's ligament. Ten to twenty minutes should usually suffice to complete both sides. The patient should be kept in bed for two weeks, which I think is sufficient time for the ligaments anchored in this way, by being woven in and out through the aponeurosis, to become firm. In the old method where the ligament was cut off and sewed to the pillars of the external ring, the danger of the ligaments giving way is much greater, and requires the patient to lie in bed for a period of about four weeks.

E. C. DUDLEY, in his recent admirable work on "Diseases of Women," advocates this method of operating, modifying the technique only in the method of securing the ligament, which he accomplishes by passing the ligament back through the puncture in the aponeurosis, then bringing it out again at a point as far forward as possible, laying it back and making it fast to the aponeurosis with buried catgut sutures, after closing the first puncture in the aponeurosis.

Previous to operation a suitable pessary should be fitted for holding the uterus in anteversion during the operation, and this should be left in position, with occasional inspection, for three months afterward.

The utility of shortening the ligament can only be judged by the statistics of those who have operated a large number of times, and judging by such testimony it serves its purpose better than any other operation designed for a similar purpose.

In DOCTOR KELLOGG's article before referred to, he states that he had then operated on five hundred and ninety-one cases, eighty-seven of which he had lost track of. In the remaining five hundred and four the retroversion had returned in twenty-one, showing failure in 4.2 per cent. In his last two hundred cases the failures had been less than two per cent. As to the relief of symptoms he reports that twelve per cent. were not relieved, which he ascribes not so much to the failure of the operation as to the fact that the patients were suffering from other conditions which caused a continuance of symptoms.

EDEBOHL reports (*American Gynecological and Obstetrical Journal*, December, 1896) one hundred and sixteen cases with four failures; twelve became pregnant, with two abortions, six normal labors and four not delivered.

S. STOCKER reports (*Centralblatt f. Gynaek.* Number XXI, 1896) thirty-seven cases; sixteen were either single women, widows, or women who had passed the childbearing age. Of the remaing twenty-one, ten—three of them for the second time—had become pregnant. One aborted in the second month, the the other nine were delivered at term; seven of the ten he examined and found the uterus in good position, the eighth was five months pregnant for the second time; two of these women had been sterile for the two years of their married life, but became pregnant within six months after the operation. From his experience he concludes that ALEXANDER's operation causes no disturbances in the course of future labors, and gives brilliant results in favoring conception.

POZZI says ("Medical and Surgical Gynecology," page 455): "Many cases have been recently published in France and elsewhere by TRELAT, DOLÉRIS, SCHWARTZ, TERELLON, who have obtained great advantages from the operation in retroflexions, which were easily reduced with no accident. It seems then that the operation of ALQUIE–ALEXANDER is susceptible of giving excellent and permanent results in retroflexions of the uterus."

MUNDÉ says ("Clinical Gynecology," page 505): "I have thus far, during the past ten years, performed it sixty-five times with such success both as to the immediate and permanent results as to render me more and more enthusiastic in its favor."

The dangers attending the operation are practically nil. With the old method the liability of post-operative hernia was considerable, but with the method advocated in this article that danger is certainly eliminated, as the inguinal canal is not opened beyond the extent of the small puncture, and the tissues at both inguinal rings are left intact.

A very important point is the selection of proper cases for the operation. Uteri which cannot be easily replaced because of adhesions, will not be replaced by shortening of the round ligaments, and in such cases the operation would only aggravate symptoms already present. In some cases wherein the adhesions are not too firm, a proper course of treatment will often break them up and make of them favorable cases for operation. Pus-tubes and other serious disease of the adnexa would contraindicate the operation until the diseased parts have been removed by abdominal section, when the ligaments may be shortened in this manner at the same time, if preferred to the intraabdominal method as recommended by **Dudley** and **Wylie**. The operation is applicable to all cases of retroflexion and version and prolapse of the uterus without adhesions. Cases of this kind attended also with prolapse of the ovaries, in which the history and examination indicate no disease of the adnexa beyond the irritation due to the displacement will be greatly benefited by this operation.

In cases wherein there is also present any other local condition needing treatment, such as endometritis, laceration of the cervix, relaxed vaginal walls, ruptured perineum, et cetera, the necessary operations to correct these conditions should be made at the same time that the ligaments are shortened, as a heavy, congested uterus unsupported from below, would so drag upon the ligaments as to cause them to again elongate.

This operation would seem to be the natural way to correct the malpositions of the uterus in question, as it aims to simply shorten a natural structure which nature uses to hold the organ in its normal position, and does not attempt to improve on nature by constructing new ligaments and attachments, as is the case with the other operations designed for the same purpose. Ventrofixation is more dangerous, less certain to accomplish its object, and in my opinion not justifiable unless the abdomen is of necessity opened for other causes than the displacement. Even in such cases I believe the best results will follow if the ligaments are shortened in preference.

Mackinrodt's operation of vaginal fixation is the other unnatural method, and is unnecessary now that this method of shortening the round ligaments has made the operation of **Alexander** a practical procedure. My own preference, until a comparatively recent date, has been for the operation of **Mackinrodt**, although it was only through compulsion that it was so, as I had found the operation as described by **Alexander** so very unsatisfactory that I had to abandon it for the vaginal method, which I believe to be the next best method when properly performed.

In connection with this operation, the part which the natural intraabdominal pressure plays in affecting the positions of the uterus should not be lost sight of. The uterus while in its normal position is not held rigidly in anteversion, but loosely so, just enough forward traction being exerted on its upper portion, at the attachment of the round ligaments, to cause it to tilt slightly forward so that the intraabdominal force is exerted on the posterior aspect of the fundus, which is undoubtedly the great factor in causing the organ to be maintained in its normal position. On the other hand, when the uterus is once forced backward and its ligaments elongated, this same intraabdominal pressure now being transferred to the front of the organ by its change of position, will tend to force it more and more backward, in which position it will be liable to remain until replaced by mechanical means.

At the present date I have operated according to **Doctor Kellogg**'s method a number of times, not enough, however, to be of any statistic value, but enough to make me strongly enthusiastic in regard to it, and to endorse everything in its favor that is claimed by its author. I have not failed to find the ligaments in a single case, and have usually pulled them up with the first trial with the blunt hook. In one case I was confused for a time by my inability to clearly distinguish the upper margin of Poupart's ligament. As soon as that was made out the ligament was readily found. In two cases one of the ligaments (the right in each case) could be drawn out but one and one-half inches, while the opposite ligament came out freely to the extent of three inches in one case and four inches in the other.

In conclusion, I will say that this operation applied to properly selected cases, and attended with other necessary repairs of the genitalia, will serve its destined purpose in a most satisfactory manner, and in my opinion will soon become one of the most popular of gynecologic operations.

SOME EMINENT PHYSICIANS OF ANCIENT TIMES.*

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It was my intention, when first invited to address this society, to prepare a paper upon some practical, clinical subject, but on further consideration it seemed to me that such a procedure would be too much like carrying salt to Athens; and as but little attention is paid in our schools to the ancient history of medicine, I thought it would be both pleasant and profitable to spend a few moments in considering from whence, how far and how fast we have come in the healing art, and to speak to you of a few of the immortals of our profession who lived twenty and thirty and forty or more centuries ago, and who constitute the background, as it were, of the art and science of medicine of today.

A certain familiarity with the history of Greece and Rome will always be required as a necessary element of general culture. And why? Because our whole civilization has its roots in Hellas and Latium. Science and art would simply be incomprehensible without Plato and Aristotle, Homer, Sophocles, and Phidias. In like manner the wonderful achievements of our profession in modern times would have been utterly impossible without Egypt, Greece and Rome; and no physician of today can have an adequate appreciation of the intellectual possessions of his profession without some knowledge of the eminent physicians of ancient times.

The ancient Jews were a remarkable people, the only authentic records of whom are found in the Old Testament. Not that everything told in the Bible of the history of the Jews is absolutely true, for in the biblical account the material has all gone through the medium of popular tradition and is woven about with much of poetic legend. Moreover, these popular traditions have been treated and presented by later compilers from special points of view. But Cornill, the latest German authority, holds that the traditions of the people of Israel regarding their earliest history are thoroughly historical in all essential points, and can sustain the keenest and most searching criticism. He considers that Abraham and Moses are not airy creations of the imagination, as some would have us believe, but are strictly historical personages. This ancient people had no special knowledge on any subject to distinguish them from other men excepting on morality and religion. Indeed, in other ways they were much inferior to their contemporaries. When Abraham went down from Babylonia to Egypt, about 2,000 years before Christ, he found a fully developed civilization, an established government, arts, sciences, manufactures and all the provisions for comfort and luxury of life as well marked as we now find them in the capitals of modern Europe. And this civilization was no new one, as we learn from the monuments that it must have existed for more than a thousand years before Abraham's visit, and probably for a much longer time. Abraham's sojourn in Egypt was a very short one and there is nothing in the

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* An address delivered before the University of Michigan Medical Society at Ann Arbor.

Bible to indicate that he carried back to Palestine any practical knowledge of medicine.

It is not until the time of JOSEPH, who lived about 1700 before CHRIST, that we find physicians mentioned in Holy Writ, in the passage where JOSEPH commanded his servants and physicians to embalm him. But this command was evidently given to Egyptians. Not until the time of MOSES, two hundred years later, do we find evidence of a class of men among the Jews who devoted their attention to medical affairs. MOSES himself was a great physician. He had by favorable providence gained access to the learning and civilization of Egypt—even his name was of Egyptian origin—and he became a most learned man. He gave especial attention to public hygiene, and the book of LEVITICUS, which MOSES is supposed to have been the author of, is largely made up of matters pertaining to public health. The eleventh chapter proscribes the meat of the rabbit and hog; the twelfth and fifteenth chapters are designed to regulate the relations between man and wife; another deals with measures for the prevention of leprosy and syphilis which can hardly be improved upon at the present time; and the operation of circumcision, which MOSES introduced as a hygienic measure, is still extensively practiced by both Jew and Gentile.

After the exodus there are allusions here and there in the Old Testament which make it evident that there were among the Israelites, probably after the manner of the Egyptians, certain men who devoted themselves exclusively to the practice of medicine. JOB speaks of his counsellors as "physicians of no value." KING ASA, when his disease was especially troublesome, "sought not the Lord but his physicians;" and JEREMIAH asks: "Is there no balm in Gilead, is there no physician there?"

The next great physician among the Jews was SOLOMON, the son and successor of KING DAVID, who was born about 1000 before CHRIST. He was most learned in the arts and sciences of the day and a great student of natural history. His sagacity and wisdom were said by JOSEPHUS to exceed that of the Egyptians, who were reputed to be beyond all men in understanding. He was a compounder of extremely useful remedies which were able to expel demons and alleviate distemper, and in the East he has always been regarded as the master of all sorts of magic.

A good deal of the world's present knowledge upon many subjects may be traced to SOLOMON, for it is believed that ARISTOTLE borrowed largely from his stores. When ALEXANDER THE GREAT was passing through Palestine on his career of triumphant conquest Jerusalem at once opened her gates to him, and the high priests placed at his disposal all the treasures of the temple. Among them were a large number of manuscripts which had been written by SOLOMON regarding plants, remedies, et cetera. These were sent by ALEXANDER to his old friend and tutor ARISTOTLE, who is said to have made free use of them in his writings.

The methodical study of medicine began in the fabulous age of Egypt. The art of embalming the dead so as to produce mummies existed there at least three thousand years before CHRIST. This would seem to indicate that at that early date the Egyptians possessed some general knowledge of anatomy. The invention of the art of medicine was ascribed by them to the Egyptian god ISIS, the HERMES of the Greeks. As early as 1400 before CHRIST there existed in Egypt an encyclopedia of forty-two volumes, six of which were devoted to medicine. The first treats of anatomy; the second of internal diseases; the third of instruments; the fourth of remedies; the fifth of diseases of the eye and the sixth of diseases of women. The authorship of this wonderful work is ascribed to HERMES by the Egyptians, but it is generally supposed to have been the work of various writers. In the earliest times the sick were exposed by the wayside in public places, that passersby who had suffered from similar maladies might recognize them and declare the means by which they had been cured. Later the sick were required upon recovery to go to the temples of Canopis and Vulcan and leave a record of their symptoms and treatment. These records were kept by the priests, who in the course of time collected a large amount of medical information and framed a code regulating public hygiene, individual regimen and the treatment of disease. Thus, far back in a period of mythology Egypt possessed a large store of medical knowledge and had able surgeons, many of whom were devoted to the study and pursuit of a single specialty, as that of lithotomy.

The Chinese have practiced and written of medicine since the remotest ages, but without intelligence or method, and are possessed of a vast collection of extravagant and empiric formulæ. They attribute the invention of medicine to one of their emperors who lived in the twenty-seventh century before CHRIST and who is said to be the author of the leading work on the practice of medicine used in China today. It is based upon the pulse, by observing which the practitioner is supposed to diagnose the seat of disease and also to prognose its gravity and duration. Being profoundly ignorant of anatomy, their surgery is of a most primitive kind. Bloody operations were never attempted, the reduction of hernia was not known, and venesection was never practiced; but cups, blisters and poultices were much in use. Even in modern times China has been overrun with most ignorant and pretentious quacks, who dealt out poisons and death with impunity. Only since the advent of the educated medical missionary has there been much improvement in the condition of medical and surgical practice in that empire.

Greece, however, furnished the world with its first genuine doctor. It is believed that AESCULAPIUS was a real personage who, in after time, was deified by the Greeks and represented to be the son of Apollo. He was born twelve or thirteen hundred years before CHRIST, and was the leading character in medicine among the ancients. So many and so wonderful were his cures that Pluto, the god of Hell, complained to Jupiter of the diminishing number of his daily arrivals, whereupon Pluto slew the great physician with a thunderbolt. It will be a good plan for you, when you get into active practice, to give the public to understand that the only reason you permit one of your patients to die occasionally is on account of your fear of incurring the displeasure of the gods. AESCULAPIUS became the god of medicine. Temples were erected bearing his name, and the officiating priests formed a separate caste, which transmitted their medical knowledge as a family heritage from one generation to another. For many years no one was allowed to practice the sacred science unless he joined the priesthood. Medical instruction was given in the temples, and about them arose several celebrated medical schools, the most important of which was on the island of Cos, off the coast of Asia, where HIPPOCRATES was born. AESCULAPIUS had two sons, MACHAON and PODALIRIUS, who distinguished themselves as physicians and surgeons during the Trojan war. MACHAON is supposed to have first performed venesection. In this way he is said to have saved the life of a daughter of the king of Caria upon whose shores he was cast during a storm after the fall of Troy.

The Trojan war which began in 1184 before CHRIST was an epoch-making event in ancient history. I find some points of similarity between it and our late unpleasantness with Spain. Both wars were due to love affairs; the latter to the love of the American people for justice, freedom and humanity; the former to the love of PARIS, son of PRIAM, the king of Troy, for HELEN, the wife of MENELAUS and the most beautiful woman among the Greeks. Since our late war the American nation seems to have decided upon a career of colonization. After the Trojan war and the overthrow of PRIAM's supremacy upon the seas, navigation became free and unrestricted, and the twelve hundred Greek ships engaged in the siege of Troy were soon busy in establishing Greek colonies upon the distant shores of the Mediterranean. In this way the worship of AESCULAPIUS spread to Asia, Africa and Italy. The more immediate descendants of AESCULAPIUS formed a priesthood, a long and powerful line known as the Aesclepiades who practiced medicine from the temples during several centuries and are frequently referred to by eminent medical authors for more than two thousand years afterwards. Their temples were hygienically located near hot springs or fountains or in groves, and became veritable health resorts where a well regulated dietary, pure air, temperate habits and faith were employed to cure disease in a way that even today would be regarded as wonderful. The priests prescribed venesection, purgatives, emetics, massage, sea baths and mineral waters.

HOMER, the greatest epic poet the world has ever seen and the earliest and most eminent author in the literature of Greece, was born about 850 before CHRIST. The place of his birth is not known.

> "Seven cities claimed the mighty HOMER *dead*,
> Through which the *living* HOMER begged his bread."

He seems to have taken an active part in the doings of men and his interest in the events he describes is most lively. His descriptions of wounds show such exact acquaintance with battles and anatomy that some German critics have been disposed to think he must have been a sort of army surgeon.

PYTHAGORUS was the next great physician of Grecian origin to leave his imprint upon the sands of time. He was born about 582 before CHRIST and before assuming the business of teaching philosophy and medicine spent much time in traveling through many foreign countries. He probably taught something of the Egyptian medical art in his course of instruction at Crotona, in Southern Italy, where medicine was first cultivated in Europe as a department of philosophy. The followers of PYTHAGORUS introduced the custom of visiting patients at their homes in opposition to the Aesclepiades who practiced only in the temples.

HIPPOCRATES, the father of medicine, was born on the island of Cos, in the Grecian Archipelago, 460 before CHRIST. His father was a physician, the seventeenth lineal descendant from AESCULAPIUS. He was a contemporary and friend of SOCRATES, PLATO and HERODOTUS, who is also called the father of history. His life thus falls within the happiest and most glorious period of the history of the Greek nation. He was educated in the medical school connected with the temple of AESCULAPIUS on his native isle and traveled widely, studying with the leading teachers in the principal foreign cities, after which he practiced his profession chiefly at the place of his birth. HIPPOCRATES was the first to divide diseases into medical and surgical, acute and chronic, malignant and benign, epidemic and sporadic. As the dissection of the human body was not permitted among the Greeks, his knowledge of anatomy was necessarily quite limited and it is not strange that he confounded arteries with veins, and thought that nerves, tendons and ligaments were analagous structures. His pathological notions were also crude and founded mainly on natural analogies and *a priori* reasoning. As a practitioner it would therefore be unfair to judge of his merits by any modern standard. He attached great importance to external appearances and became a remarkably close observer, founding his views of medicine upon facts, or what he supposed to be facts, observed by himself or dug out of the great accumulation of medical records in the temple of AESCULAPIUS on the isle of Cos. He was a most prolific writer and his productions show him to have been a man of the noblest mental and moral qualities. There are extant more than sixty works which bear his name, but many are no doubt incorrectly ascribed to him. He wrote extensively on internal diseases, as epilepsy and hysteria. One of his books was a treatise on the diseases of women; another on sterility. Concerning external diseases and their surgical treatment he wrote fully, including dressings, operations, fractures and dislocations. He called attention to the possible danger of trifling wounds of the head, and the possibility of recovery from those most serious, so often erroneously ascribed to SIR ASTLEY COOPER. Other monographs deal with diseases of the eye, fistulæ, hemorrhoids, nature of the infant, generation, the seventh and eighth months of pregnancy, accouchment, superfetation, dentition and diseases of women. HIPPOCRATES studied epidemics carefully and was the first to connect meteorological phenomena with those of disease, expressing the belief that by the study of storms it would become possible to foresee the latter and to prepare for them. Seven books of the **Hippocratic** collection bear the title of "Epidemics," which contain a long list of clinical observations relating to various diseases.

Plato and **Aristotle** are usually thought of as philosephers, but they were also physicians. They embodied a great many of the statements of **Hippocrates** in their own writings and teachings, and thus exerted great influence upon the progress of the human mind, especially in the direction of medical study. **Aristotle** was born in 384 before **Christ**. His family was distinguished by the hereditary profession of medicine and was wont to trace its origin to **Machaon**, one of the sons of **Aesculapius**. His was one of the most highly gifted intellects the world has ever seen, and all agree that his wealth of scientific knowledge is unsurpassed in ancient or modern times. When Phillip of Macedon looked about for a tutor for his son, who later became **Alexander the Great**, he chose **Aristotle**, which would seem to indicate that he achieved great renown during his lifetime. He was the greatest naturalist of antiquity and with the help of **Alexander** formed the first known museum in natural history. Although he never dissected human bodies, he corrected many errors in anatomy held by the **Hippocratic** school. He dissected a large number of animals of every species and became the real founder of comparative anatomy and zoology. So complete was the plan he created that it was followed with few changes by the great French naturalist, **Cuvier**, one hundred years ago. He described the brain with considerable accuracy, but said the nerves proceeded from the heart and called the aorta a nervous vein.

In 320 before **Christ** or about one hundred years after the time of good **Hippocrates** was founded the largest and most celebrated library of antiquity at Alexandria, Egypt, under the protection and patronage of the Ptolemies. Then and there grew up the leading medical school of the world for over five hundred years. This was due largely to the fact that dissection of the human body was allowed and encouraged, which gave a great impetus to the study of medicine. Among the eminent medical men who lived during this period were **Herophilus** and **Celsus**. **Herophilus** was a distinguished surgeon and the most celebrated anatomist of antiquity. It is stated with probable truth that he practiced vivisection upon human beings, probably condemned criminals. **Tertullion** says he dissected no less than six hundred *living* persons. It is to be remembered that while the ancients generally regarded the dissection of the dead body as something almost impious, they had comparatively few scruples against inflicting pain upon the living. The **Ptolemies** are said to have done a great deal to remove the odium attached to dissection by engaging in it themselves. **Herophilus** was the first to undertake the systematic dissection of the human body, and his fame is commemorated by the torcular Herophili, the place where the superior longitudinal sinuses of the dura mater join the lateral. He was one of the fathers of what is called heroic practice in which excessive doses of powerful drugs were used, and he did much to introduce the useless compounding of many drugs in one prescription—a custom which lasted until the present century. He wrote on all departments of medical science, the eyes, pulse, and midwifery, and described the membranes of the brain, its nerves and ventricles, with great accuracy. **Cornelius Celsus** was born in Rome about the time of **Christ**. He was a walking encyclopedia of the knowledge of his day, but was and is best known as a physician. His writings are all lost except his excellent work on "Medicine," in eight volumes, the style of which is remarkably elegant and pure. He adopted most of the medical doctrines of **Hippocrates** for whom he had the greatest reverence. Although he exerted great influence during his life time, his authority was a hundred years later totally supplanted by **Galen**, and his views were seldom referred to by later writers.

It remained for the Jews, however, to produce the greatest physician the world has ever seen. The arbiter of history assigned an exceptional mission to the people of Israel. True, they played no important part in *universal* history in the accepted sense of the word, nor did they ever lead in the march of civilization. In learning and the plastic arts they achieved nothing. They produced no PLATO or ARISTOTLE, no PHIDIAS or PRAXITALES, no HOMER or SOCRATES, but they gave the world MOSES and the prophets, the true GOD and the true religion. JESUS CHRIST was born in the year 5, 6 or 7 before CHRIST; the place of his birth is as much a matter of uncertainty as is the date, although it is popularly supposed to have been Bethlehem in Judea. He died on the gallows; but the exact date of this event is also unknown, authorities placing it between 29 and 36 Anno Domini. Little is known of his life until his thirtieth year when he began giving the world many evidences of his miraculous power over disease, which CELSUS, of whom I have just spoken, ascribed to magical arts which he learned in Egypt. That CHRIST did actually perform miracles seems almost incontestable, and many liberal theologians have attempted to bring them within the compass of possible belief for even the most sceptical mind. In many instances the eye witnesses are supposed to have been in a state of supernatural exaltation, and their testimony, therefore, to be of an exaggerated nature. The opinion held by a person of any extrordinary occurrence would depend largely upon his temperament. An event, which to an ordinary mind might seem simply wonderful, to a more ardent minded man would seem providential, and to a deeply religious person, miraculous. In other cases the cures are supposed to have been wrought in a perfectly natural manner. For example, take the ones performed at Bethesda. There are at the present time many gaseous springs about Jerusalem whose waters are quite as likely to produce beneficial results as were those of the pool of Bethesda, and there is no indication in the scriptural narrative that cures were *suddenly* or *instantaneously* wrought at Bethesda by CHRIST. According to SAINT MARK, JESUS cast a legion of devils out of a man into a herd of two thousand swine, which forthwith rushed down into the sea and were drowned. There can be little or no difficulty in understanding that the shrieks and gesticulations of a powerful lunatic, or an epileptic, might strike uncontrolable terror into a herd of swine, and that in the minds of all present the precipitate rushing of the swine down a hill and into the water might have been connected with the man's temporary release from his demoniac thraldom while in CHRIST's presence.

But CHRIST's personal cures are as nothing compared to the wonderful influence his teachings have exerted in the prevention and cure of disease for the past eighteen hundred years. The religion he founded has been, and is today, the greatest instrument of progress the world has ever seen. Wherever his teachings have gone civilization with its churches, schools, hospitals and asylums has followed. It is a peculiar fact that a knowledge of medicine is as essential to a missionary as is an understanding of scripture. It is the Christian missionary who is carrying scientific medicine to the millions of sufferers in heathen lands today. More than one million patients are annually treated in the hospitals and dispensaries of our foreign missionary fields. In the forty-eight medical institutions which the church has established in India alone more than four hundred thousand patients are annually treated.

Vitality manifests itself in three ways; physically, intellectually and morally. We physicians have given so much of our attention to the physical causes of disease that we have in a measure lost sight of the fact that the most potent factors in its causation lie entirely outside of our physical nature. The condition of health for man is that wherein all three parts of his nature are acting in harmony. A deficiency in one mars all. A condition of disease can be brought about just as certainly by defective mental or moral actions as by purely physical causes. A healthy body is dependant upon a healthy mind, and both are far from a normal state when the moral nature becomes diseased. This is illustrated in the difficulties experienced by the sanitary authorities in India in arresting the plague, which is due to religious customs and the fanatical opposition of the sick to the use of remedies. Their religious beliefs must be changed and their minds set right before their bodies can be cured. Such scourges as cholera, leprosy and plague are intrenched in the social and religious prejudices of great populations, and we will never see the last of the plague in India or the leprosy in other parts of the world until the effete creeds and superstitions of bygone ages have been displaced by the teachings of the Christian religion.

In closing I wish to acknowledge my indebtedness to DOCTOR ROSWELL PARK's most interesting and instructive work, "An Epitome of the History of Medicine," from which I have freely borrowed in the preparation of this address.

SUTURAL CLOSING OF VISCERAL WOUNDS.*

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ACCURATE approximation of serous surfaces is of supreme importance in attempted closing of visceral wounds. Whether offending gall-stones be brilliantly removed or an encroaching pyloric growth be boldly attacked, a sphacelated mass of strangulated gut be resected or a torturing calculus be extracted, ultimate success will depend upon the permanent control of visceral contents. Provided this result be attained and peritoneal infection thereby avoided, it matters little whether this or that technique be employed. The essential element of success in visceral surgery is the permanent protection of the injured and vulnerable peritoneum.

To accomplish this many procedures have been suggested, some adopted with more or less success, and others relegated, after trial and disappointment, to execration and oblivion. Pioneer surgeons may be said to have rarely, if ever, attempted complete closing of visceral wounds. Such as were met with, either as the results of accidents or in the natural courses of diseases, were usually allowed or caused to form fistulous openings upon the surface. The permanent obliteration of such openings and the successful closing of viscera, intentionally opened, are incidents of modern surgical progress.

Without discussing the relative merits of SENN's bone plates, MURPHY's buttons, BAILEY's tubes, ROBSON's bobbins and the many methods of intestinal suture, I shall simply describe two methods of sutural closing of visceral wounds, which a not inconsiderable amount of experimental and clinical experience has taught me to be both simple and reliable.

The first method which I shall mention is the purse-string suture, first recommended by DAWBARN for the closure of bullet wounds of the stomach and bowel. This method consists in encircling the wound with a series of continuous sutures, each of which transfix the serous and muscular coats but do not pierce the mucous coat; the first hitch of a reef knot is then loosely made with the free ends of the suture, the encircled tissues inverted by a pair of dissecting forceps in the hand of an assistant, and the knot completed. When nicely done the wound will have been found to have been accurately closed and every vestige of subperitoneal tissues concealed. This procedure is very easily and quickly executed and may be extended to operations upon the gall and urinary bladders as well as to small incisions in the stomach and bowel voluntarily made. Its utility in resections and amputations of the vermiform appendix is unquestionable. It has, nevertheless, its limitations. It is adapted to wounds not more than one-half inch in diameter and preferably to thin-walled viscera.

The other method to which I refer is the CZERNY-LEMBERT suture, which, in the closing of visceral wounds more than one-half inch in length or diameter and in effecting either an end-to-end or a lateral anastomosis, has no superior. For the closing of simple wounds of any of the hollow viscera the continuous suture is a speedier means than the interrupted form. It is advisable, however, in order to avoid undue distorting of the organ and unnecessary constricting of its lumen, to make use of both kinds. Separate threads should be used for at least two linear inches of such a wound.

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*Read before the MICHIGAN STATE MEDICAL SOCIETY at the Kalamazoo meeting.

To encircle a hollow viscus, as in effecting an anastomosis, at least four separate threads should be employed. These may make a happy combination of interrupted and continuous suture if used in the following manner: Supposing an entero-anastomosis is to be effected, let four Lembert sutures be formed by four separate threads, one inserted into both portions of gut at the mesenteric junction, a second into the walls opposite to the mesentery, the other two into the lateral walls respectively at points equidistant from the first two. Let the knots be so tied as to leave a long and a shorter end on each thread. The quadrants thus formed may then be approximated, one after the other, by continuous sutures, using for this purpose the long ends of thread, which are finally tied to the shorter ends respectively next adjacent. A wound of the character proposed, having been encircled in the manner described, by two tiers of Lembert sutures of sterile catgut introduced by small smooth needles, will have been found to have been accurately closed and, barring complications, to be subject to a favorable prognosis.

In assuming the employment of the sutural method and the use of catgut material, a discussion of the several devices offered for these purposes has been intentionally avoided. The advantages of absorbable sutures over any and all other devices are or should be, it seems to me, so patent as to need no apologetic evidence. Experience, moreover, affords the most reliable basis for correct judgment.

THE EMPLOYMENT OF GLOVES AS A RECENT FACTOR IN OPERATIVE SURGERY.*

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Of the many innovations which the surgeon of today is continually meeting as he treads the highway of progress, some are invaluable; some, indifferent; some, inane. In the first category may be placed the sterilization of instruments and dressings; in the second, the matter of complete sterile operation suits versus simple sterilized gowns; in the third, the use of Holland "klomps," or the face-mask, or the mouth-shield. Whatever, in the army of novelties, appeals to our common sense as worthy of consideration should be investigated until its merits or demerits become fully known and its value or uselessness thus determined.

The employment of gloves as an added factor in aseptic, surgical technique has now been before the profession long enough to have demonstrated its perfections and imperfections, and I, for one, thoroughly believe that it contributes an additional round in the ladder of surgical science by which we are advanced a step nearer the perfect in our art. That the use of gloves during the performance of operations diminishes the element of danger through the enhancing of the aseptic idea is axiomatic. No sane operator will deny it any more than he will deny that the half is less than the whole. Some, however, believe that hands can be rendered sterile enough by mechanical or chemical procedures, or both. No given object is sterile enough if, by other practicable means, it can be made still more sterile.

To prove that the best methods used today in the asepticizing of operative hands fall far short of the desirable and the obtainable, I will quote briefly from the paper of Doctors Bull and Coley, on "Hernia," published in the *Annals of Surgery* for November, 1898:

"After preparation by (1) tincture of green soap; (2) alcohol, ninety-five per cent.; and (3) bichloride of mercury; the scrapings from the nails of twenty-three operators showed sterility in ten cases and culture-growth in thirteen. Bacteriological experiments following preparation by (1) tincture of green soap; (2) chloride of lime; (3) washing soda; and (4) alcohol, ninety-five per cent.; in thirteen other cases showed sterility in six and culture-growth in seven."

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*Read before the Surgical Section of the Michigan State Medical Society, at the Kalamazoo meeting.

Comment is unnecessary. The only argument against gloves which is worthy of consideration is their relative clumsiness, and this argument, in my opinion, is fully met by the statement of two facts, namely: (1) This feature can be more or less overcome by practice; (2) A moderate degree of clumsiness is inimical to but very few operative procedures. That exquisite delicacy of touch, by virtue of which a surgeon can see with his finger-tips, is but slightly diminished by rubber gloves of suitable and practical thinness. Thus the great fear that "finger-seeing" must suffer abolition in the new march of events essentially falls to the ground.

The writer, for many months past, has been investigating this subject and has come to definite conclusions thereon. A convert to the suggestion the very instant I saw it in print, because of its apparent merit, I fell to using the *cotton* glove exclusively. I then espoused the cause of the *rubber* variety and now have uses for each. A narration of the advantages and disadvantages of both styles of glove will not be amiss:

COTTON GLOVES.

ADVANTAGES.	DISADVANTAGES.
(1) Cheapness.	(1) Clumsiness.
(2) Durability.	(2) Permeability.
(3) Ready aseptibility.	(3) Soiling quality.
(4) Porosity.	(4) Interference with sense of touch.
(5) Toughness.	(5) Frictional quality.
(6) Frictional quality.	

RUBBER GLOVES.

ADVANTAGES.	DISADVANTAGES.
(1) Aseptibility.	(1) Expensiveness.
(2) Imporosity.	(2) Impermeability.
(3) Thinness.	(3) Impermanency.
(4) Slipperiness.	(4) Readiness in suffering laceration.
	(5) Slipperiness.

ADVANTAGES OF COTTON OVER RUBBER.

(1) Cheapness.
(2) Durability.
(3) Toughness.
(4) Frictional quality (in some instances).

ADVANTAGES OF RUBBER OVER COTTON.

(1) Imporosity.
(2) Associated preservation of tactile sense.
(3) Slipperiness (in some instances).

Several of these points may seem inconsistent. For instance, porosity is stated as an advantage in cotton gloves and permeability, which is the same thing, as a disadvantage. This is, nevertheless, true. Porosity permits evaporation of the sensible perspiration and thus prevents pastiness of the digital integument. Therefore porosity is an advantage; but, in this instance, the permission for evaporation to proceed gives license to extraneous poison to enter. On this account, the disadvantage outweighs the advantage in cases wherein extra precautions are indicated.

This is seen again in discussing the frictional quality of cotton. Through its instrumentality, in this particular, as an advantage, tissues can be firmly yet delicately handled, without slipping, and ligatures snugly and securely tightened and tied. This quality becomes a disadvantage, however, when one desires to seek objects in the depths of a wound, especially if that wound involve the peritoneal sac.

In some respects silk is preferable to cotton, the sense of touch being less interfered with; but its advantages over the latter are not great and the fact that these points of superiority are possessed likewise by rubber renders silk not especially desirable.

It has been my habit, in all extraperitoneal operations; that is, in cases where infection is not very imminent, or where, if a resultant, it is not so serious in its consequences, either directly or indirectly, as when the peritoneum is involved, to draw sterile cotton gloves over hands prepared as scrupulously as heretofore; but when operative manipulations are to be practiced in the arena whose walls are peritoneum I use carefully sterilized (boiled) rubber gloves, the hands to be prepared, in addition, as in gloveless operations.

The sense of touch is most generally required at a maximum in abdominal surgery. Here also is the fertile field for infection if great care is not exercised. Therefore, the rubber glove (1) because of its very slight interference with the sense of touch, and (2) because of its greater aseptic capabilities should be the preferable variety. It is with extreme delight that one experiences the precision and accuracy in holding instruments and in drawing ligatures and sutures inherent in the use of cotton gloves. The slipperiness of blood-smeared fingers and tools and tissues is practically eliminated. The naked fingers are not to be compared, for a moment, in the same catagory, and one cannot realize the great advantage of this frictional factor until he has experienced its virtue. In this respect rubber is vastly inferior. In fact, the use of rubber gloves maximizes the slippery effect incident to the employment of the naked hand. Rubber, again, is fragile, is often cut through by strong traction on pedicle ligatures, is readily ruined by puncture or laceration, is expensive, and its life is brief. Oils and soaps kill it.

From another view-point rubber is much superior to cotton. I refer to the soiling quality. Cotton, when soiled, is incapable of restoration to its original purity during the continuance of the same operation. More than that, liquid contamination sets up currents which pass back and forth between glove and integument thus favoring infection when infection is possible. Cotton gloves require changing in order to maintain cleanliness and this consumes time. Rubber gloves, however, can be readily freed from adherent material, offensive or inoffensive, by simple immersion in sterile water or an antiseptic solution.

There is another phase to this question of glove use in surgery, namely: the matter of personal, digital contamination when dealing with poisonous foci. In the first place the risk of autoinfection is rendered more remote and, in the second place (a much more important consideration) the possibility of conveying infection from one patient to another is minimized.

Who of us while standing with hands submerged in the virulently poisonous secretions attendant upon a septic peritonitis does not feel more or less concern for the patient into whose abdominal cavity those same hands are to be thrust tomorrow or the next day or the next. Of course, protection from the possible calamities inferred above cannot be secured through the use of *cotton* gloves and it is right here that *rubber* rises so preeminently above its sister material.

When infection is practically synonymous with death, or when decidedly poisonous areas are to be entered, *rubber* should invariably be our choice; but when infection may mean simply prolongation of convalescence, or other minor ill, *cotton*, to my mind, offers qualities superior to rubber.

With the successful experiments of **Lister** there arose new possibilities in surgery which had never been conceived. Step by step have these possibilities, or at least many of them, advanced into probabilities and the probabilities, in their turn, have become realities. To the beautiful galaxy of stars in the firmament of surgical asepticism can now be added another glowing point in this latest application of an immortal principle. The use of sterilized gloves in operative procedures has come to stay. It ranks as of equal merit with the use of sterilized instruments and dressings, and advances us a step nearer the realization of a surgeon's ideal.

DISEASES OF THE CAVITIES OF THE NOSE AN IMPORTANT FACTOR IN PRODUCING AFFECTIONS OF THE EYE.*

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CASES are presented to us daily, usually school children, who have but recently manifested some marked disturbance of vision, the symptoms of which are of course variable, but as a rule, headache, blurring, with a dry smarting sensation through the eyes, and an increased lachrymation, with blephro-conjunctivitis.

With few exceptions, these cases are presented to the oculist for the purpose of having the eyes tested and glasses adjusted. At this first examination, it is important for us to always bear in mind that all cases of headache, blurred vison and general ocular disturbance are not due to *refractive* error, and he who adjusts a glass *simply* as a *routine* of business will in a very short period of time find, in many of such cases, that the conditions he intended to relieve are not improved, but on the contrary, are made much worse, and perhaps the case goes out of his hands entirely, seeking relief from other sources.

It is not my purpose in this paper to enter into a full discussion on this important subject, nor to draw such precise lines in symptomatology as to overshadow the more important consideration in its practical bearing. In systematizing the ocular symptoms dependent on pathological conditions of the nose, GRADLE makes the following classification:

(1) Lachrymation without primary lesion of the tear passages of the eye and due to some chronic abnormality of the nasal passages.

(2) Fullness of the lids and itching, possibly with increased lachrymation and more or less pain with asthenopia, especially marked in one eye. Patients with these symptoms aggravated, have also a refractive or muscular anomaly.

(3) Periodical discomfort (itching of the lids) allied to hay fever or coexisting with conjunctivitis; lesions are first of follicular enlargement and finally the formation of large, flat, yellowish granules, which disappear in cold weather.

(4) Photophobia with or without pain in the eyes, these being often bloodshot with little nasal annoyance, but decided itching.

(5) Injection of the pericorneal vessels, together with varying degrees of above symptoms chronic and persistent.

(6) Acute congestion of the lids, with irritable nose erysipeloid in character.

(7) Sudden edema of the lids, without congestion, lasting only a few hours.

For the purpose of the present paper, we will simply divide our subject into two classes:

(1) Pathological conditions of the eye resulting from the passage of morbific material from the nose through the nasal duct or immediate tissue of the eye.

(2) Pathological conditions of the eye dependent on hypertrophies, deformities or mechanical abnormalities of the nose.

As is well known, the eye is directly connected with the nasal cavities by the nasal duct, which, lined throughout with the same mucous membrane which covers the globe of the eye and lines the lids, gives direct communication for the passage of the morbific germ from the nose to the eye. The nose, then, under certain pathological conditions, becomes the nidus, for the aggravating causes of the ocular symptoms.

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*Read before the MICHIGAN STATE MEDICAL SOCIETY, at the Kalamazoo meeting.

It will be seen at once that the ready means of the nasal duct renders the eye liable to attack from nasal diseases particularly such as ozena, hydrorrhea, gonorrhea, diphtheria, syphilis and the various forms of rhinitis.

The eye symptoms occurring with this condition are lachrymation, photophobia, burning and smarting of the lids with deep injection, which may embrace the whole conjunctival mucous membrane of the eye. Germs frequently gain entrance to the eye by direct migration, but more frequently are forced into the eye by blowing the nose, sneezing and by the indiscriminate use of the stomizer.

The cul-de-sac around the inferior turbinate body is so situated that it serves for a receptacle and accumulation of effete material, which is already or will very soon become decomposed, and find its way into the lachrymal sac and to the ocular conjunctiva.

The irritating qualities of this morbific material immediately sets up a blennorrhea, ulceration following which will not yield to any form of treatment directed to the ocular trouble, until the immediate or exciting cause, the nasal affection, is removed. This particular form of nasal disease is more prevalent during the fall and spring months of the year.

The oculist's attention is particularly attracted by the number of school children ranging in age from five to fifteen years who present themselves at the office for treatment with nasal affections. Quite a per cent. of those have associated corneal ulceration or some form of phlyctenular inflammation or lachrymal disease.

In a large per cent. of the cases that we examine of this character we find great congestion of the turbinals, with copious watery discharges from the nose, the formation of crusts and excoriation of the upper lip. The eye symptoms which have become manifest are marked by excessive lachrymation, photophobia, and when the deep structures are involved (which is often the case when there is associated a specific constitutional dyscrasia) we have marked pain. I wish to mention in this connection that it is frequently the case that the nasal diseases have not advanced to the aggravated stages above mentioned, and as a consequence, the eye symptoms are not so pronounced. The usual symptoms in mild attacks are simple photophobia, blurring of the vision, increased lachrymation and a feeling of roughness of the lids, giving the sensation of sand in the eye.

Unless we are guarded in our examination of the case, and have in mind the frequency of the nasal affections as a cause of the eye trouble, we are liable to be misled in our diagnosis and make the grave mistake of adjusting glasses.

Many times, in the early years of practice as an oculist, I have made this error, and this experience has taught me the important lesson of *always* examining the nasal cavities and as a rule, especially in children; I readily find the cause of the eye trouble to be traceable directly to variable degrees of inflammation of the nasal cavities and nasal duct.

The second division of our subject, pathological conditions of the eye dependent on hypertrophies, deformities or mechanical abnormalities of the nose, will open up a field of research more extensive than the time allotted to this paper will admit of.

Hypertrophies of the turbinates, over-development of the ethmoid with frequently a deflected hypertrophic septum are among the important causes of producing pressure on the first or optic nerve, the ophthalmic branches of the fifth, and the various branches of the nose of Meckel's ganglion. Either by direct pressure or reflex irritation, we have a disturbance of the ocular muscle, a disturbance of the function of the entire nerve supply to the eye, resulting in atrophy, limitation of the field of vision and, in many cases, temporary blindness, which may become permanent. Polypi, tumors and the lodgment of foreign substances in the superior nasal cavities will produce like results.

It will be seen at once that our duty in these cases is apparent, and that is the removal of the obstruction, and unless of too long standing and degeneration of the nerve has followed, we may look for a partial or complete restoration of sight.

It is not my purpose in the present paper to enter into the discussion of the treatment of the various forms of nasal disease, with ocular manifestations, but to simply and if possible, plainly point out the pathological conditions, which will indicate the course of treatment to be followed by each physician as he may elect.

In this connection I will report a case that came in my practice in 1892, that had a direct bearing on the subject of the paper, and may be of interest to those present.

In March, 1892, Mr. A. L. C., of Hillsdale was referred to me by Doctor Moore, of the same city, for examination and treatment. The doctor in his letter stated "that the trouble dated back seven years; that the more prominent and distressing symptoms were the left nostril and left eye. That the case had apparently resisted all and every form of treatment, and that he had grave fears of malignancy, as there had been marked pain through superior nasal sinuses, globe of the eye and temple, with a constant oozing of bloody discharge from the nose."

I must confess that the history of the case, and general anxious appearance of the patient rather confirmed my belief in the doctor's suspicions of malignancy, although there had been no microscopical examination made. With this in mind I proceeded to a thorough investigation of the case. The left nostril was completely occluded with a fungoid mass which would bleed profusely by a simple touch of the probe. The left eye, the whole conjunctival tract, including the lachrymal duct presented evidences of inflammation of long standing, with copious purulent discharge and epiphora from occlusion of nasal duct. It was with great difficulty that I was enabled to insert a small probe into the postnasal fossa. The hemorrhage was profuse and obstruction almost complete. I determined to enlarge the nasal opening, and consequently with a strong pair of curved scissors (after cleansing and disinfecting and the application of a ten per cent. solution of cocaine) I removed a considerable portion of the fungoid growth, enough to admit a good sized probe into the nasal space. As I turned the probe in various directions, I discovered in the cul-de-sac around the inferior turbinate a hard substance that had the appearance of dead bone. By firm pressure I found it was detached and movable. My inference was then that I had to do with simply a sequestrum and the next step was to gain enough space for its removal. By the free use of the chisel and saw I opened the passage sufficient to insert a strong pair of forceps and grasped, and with a considerable difficulty removed the piece of dead bone, which, upon inspection, I found to be an *incisor tooth.* As I held the substance up for inspection of my patient, remarking "that it was certainly an unlooked for and peculiar place to find an incisor tooth," he remarked, "There is that missing tooth which was kicked out by a horse twenty-two years ago."

He stated that he was kicked by a horse as above stated, which knocked out two of his upper front teeth, and as he could only find one of them, he supposed he had swallowed the other.

The interesting part of this case is that this tooth driven either through the hard palate into the middle nasal fossa, or back through the pharyngeal vault could have remained passive, with absolutely no indication of obstruction or the presence of a foreign substance for a period of fifteen years, and then become detached and produce the long train of distressing symptoms before mentioned.

The subsequent progress of the case was one of rapid recovery. The fungoid growths were thoroughly removed by galvano-cautery, the conjunctiva and nasal ducts were cleansed by a simple antiseptic solution, with a week application of nitrate of silver. This line of treatment was continued by Doctor Moore for six weeks, and the case was discharged as cured.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MARCH 20, 1899.

THE PRESIDENT, *pro tempore*, F. L. NEWMAN, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR HOWARD W. LONGYEAR read a paper entitled "The Operation of Shortening the Round Ligaments for the Cure of Retrodisplacement and Prolapse of the Uterus." (See page 320.)

DOCTOR CARSTENS: DOCTOR LONGYEAR has given us a very good description of this operation. The method of operating he practices is, I think, the correct one, but the questions in my mind are, first, whether that round ligament is really the ligament which keeps the uterus anteverted, and secondly, whether it holds the uterus in place where it ordinarily is in the normal condition. I, myself, have had very grave doubts upon this question. I have always had an idea that the round ligament had something to do with the uterus when the woman was pregnant, and when the uterus descends I think there is something back of it, that it is simply a stretching of the ligaments. Still, there certainly is no objection at all to using the round ligament to keep the uterus in place if it will do so. If one reads the description of these displacement cases he will observe the operators tell us the ligament is so thin, so fragile and so easily torn that it cannot hold the ordinary uterus in place. One has to go away back and ask what causes this uterus to be retroverted and descend? That is an intricate and complicated question. When descent of the uterus is a condition there is not only descent of the ovaries as a complication, but the intestines, the kidneys and the whole abdominal viscera is also found to have descended. The supporting or holding up of a uterus in that condition by shortening and stitching up the round ligament absolutely does no good, for the uterus will in a very short time descend again. Another point in my experience. I have not been able to find the round ligament very well. The ligament is oftentimes entirely lost. If one has a case that has had pelvic inflammation undoubtedly the uterus will be pulled back by adhesions. If there has been an incision into the peritoneum and inflammation of the sheath of the round ligament follows the ligament is not moveable. I have seen quite a few cases that have been subjected to the Alexander operation and there was a retroversion afterward; their condition was just as bad as ever, and hence I have a predjudice against the operation. If one has a particularly favorable case it is a good operation, but such are rare. Now, during the past year I saw two simple, ordinary, uncomplicated cases of retroversion of the uterus; two—that is all. Those two cases I operated upon by the Mackinrodt method. The other cases of retroversion of the uterus I had were cases wherein there were fibroids in the uterus, pus-tubes, chronic inflammation of the ovaries, tubes and adhesions that required opening of the abdomen and removal of the ovaries and tubes. After breaking up the adhesions, I would do the intraabdominal operation of shortening. I had in all sixteen cases of this kind last year. The inflammation of the uterus and ovaries in other cases was so complicated that I did a vaginal hysterectomy. I saw MORRIS, of New York, do an Alexander operation, and he says there is often a little adhesion back of the uterus that one cannot detect by manual examination, and if the uterus is pulled up by shortening the round ligament this fibrinous band constantly drops and the woman always has pain and never becomes well. He does the operation on one side, as DOCTOR LONGYEAR explains, and on the other side he breaks up any adhesions and then closes the incision. In this way no adhesions are left to pull on the uterus. Plain uncomplicated retroversion of the uterus, is very rare, and if it is plain and uncomplicated many women have it, and never know it, but just as soon as they do know it they want to be operated upon.

Doctor Manton: **Doctor Carstens** has touched upon all the points in connection with the paper. I agree with him in what has been said. I always thought that the special use of the round ligament was to hold the uterus forward during pregnancy, and particularly in labor during contraction of the uterus because in a good many cases wherein I had occasion to open the abdomen within a few months after delivery I have found the uterus in pretty good position, but the round ligament seemed to have no action whatever in holding the uterus forward. It may possibly act somewhat in holding it forward when the bladder is distended, but under normal conditions I do not see how it has any action whatever. As a result of this operation when a portion of the ligament is pulled out and shortened it must hold the uterus up. The slightest prop will hold the uterus up when it is displaced. I have not done this operation for five or six years. I had a number of cases, some of them soon after **Alexander** read his paper treating of this operation. I have come to the conclusion that it was not, in my hands, or at least to my mind, a satisfactory operation. I notice that the doctor spoke of the white, shining, glistening appearance of the cord. I dissected, some years ago, a large number of female pelves, and in a great many of them I did not find that white glistening cord. It is often fatty and yellowish in appearance. A great many writers claim that it is almost absolutely impossible to find the ligament unless one cuts down and enters the inguinal canal. I do not see where **Doctor Kellogg** gets all his cases. Large operators in New York rarely ever see a case. In case of simple retroversion I do the Mackinrodt operation or ventral fixation of the uterus.

Doctor J. J. Mulheron: I have had occasion during the past year to give this subject a little more than an ordinary amount of consideration. I had read **Doctor Kellogg**'s reports of a great number of cases operated upon by him, and with almost uniformly successful results. Also scattered reports of successful cases of Alexander's operation by others. My own experience has been confined to two or three cases. In one of these I succeeded in finding the round ligament and shortened it. In one of the other two cases **Doctor Longyear** was present and we could not find any trace of the round ligament. During the past year it was my fortune to discuss this matter with several of the leading gynecologists of Europe and particularly with **Wertheim** and **Flower**, of Vienna. I mentioned **Doctor Kellogg**'s experience in Michigan to **Doctor Wertheim**, and incidentally asked him what he thought of it. He replied: "There are only two ways out of it; either your American women are built differently to those in Vienna, or the other way—leave it to **Doctor Kellogg**'s veracity. I have my doubts about one man ever having had such a run of successful cases of Alexander's operation." In the deadhouse in Vienna the females were uniformly left open for the space of one month, and in thirty per cent. of the cases the round ligament had entirely disappeared after leaving the internal ring. It was impossible to find it, and instead of this glistening tendon which **Doctor Longyear** speaks of we saw a spreading out of muscular and fatty tissue which could be recognized as the round ligament only by the fact that it was followed from the uterus from within outward. Alexander's operation has been entirely discarded in Vienna. It was tried there very thoroughly and was voted a failure principally because of the difficulty and impossibility of finding the round ligament. The fact that fixing of the uterus in its proper position has never been successfully accomplished by any of the older methods induced **Wertheim** to attempt another operation, an operation which I think is a successful one, if any such term can be applied to shortening of the round ligament. He shortens the round ligament through the anterior vaginal wall. The great difficulty experienced in fixing the uterus in its normal anteverted position resides in the fact that—as **Doctor Carstens** has pointed out—cases of uncomplicated retroversion are exceedingly rare. A uterus which has been retroverted for any considerable length of time is almost uniformly fixed there by adhesions. These adhesions must be broken up before the uterus can be fixed in its normal position successfully, and this cannot be done by Alexander's operation. One can, however, do it with the Dudley method of operating by opening the abdomen, yet the risk of opening the abdomen is hardly justified for a condition of this kind. **Wertheim** operates as follows: The anterior incision is similar to that in a vaginal hysterectomy. The bladder is separated from the vagina by the finger and the peritoneum reached. The peritoneum is cut across horizontally and stitched to the vaginal mucous membrane by two temporary sutures. The fundus of the uterus is then seized by bullet forceps and the organ anteverted through the opening. The round ligaments are then brought into view. A temporary silk ligature is then passed under the ligament at each side and being loosely tied is entrusted to an assistant. The uterus is then returned to the peritoneal cavity and the ligaments drawn down from their vulvar ends to a sufficient length to form a loop to make the necessary shortening. This loop is then stitched together with silk when the temporary ligature is removed. The slight venous hemorrhage caused by the bullet forceps is checked by means of fine sutures. The vaginal opening having been closed the operation is completed. If shortening of the round ligaments is to be adopted as a remedial measure in cases of retroversion Wertheim's method certainly stands head and shoulders above any other that has yet been attempted.

Doctor Longyear: I am not surprised at the remarks of those who have spoken this evening regarding this operation. They are in the same position I was in before I saw it. They do not appreciate its advantages. I felt just as they did, but since understanding it and employing it for the condition mentioned I feel differently. As **Doctor Carstens** says, the round ligament will not hold the uterus in position, that is, the round ligament alone, and it is not expected that it will. This operation is not intended to suspend the uterus entirely by the round ligament and hold it there. Even by **Alexander** himself it is recommended to repair any other defective condition which is observed to need it, such as a torn perineum or lacerated cervix. That I mentioned in my paper. It is true, as has been said, that there is sometimes a prolapse of all the other organs, but one cannot hold up the kidneys, the stomach and other organs by shortening the round ligaments. As I said in my paper, the round ligaments gently operate to hold the uterus forward and are aided in that by the help of the abdominal organs. **Doctor Carstens** has said that the operators have spoken of the ligament as being so very thin and spread out as to be difficult to find. I said that also in my paper. That is the trouble with Alexander's operation. It is difficult to find the ligament and if you find it, it is often attached to the inguinal canal, and very frequently you have either to open up the inguinal canal, or else you break it, and it will break by very slight traction, and for that reason the operation is given up by a great many. **Doctor Mulheron** says that this operation has been given up in Vienna. I believe the reason that it is a success is catching it in the proper place as specified in my paper. The ligament is eight or ten times as large at the internal as it is at the external opening. **Doctor Carstens** says these cases are exceedingly rare with him. I find them quite often without any development of the adnexa. **Doctor Kelly** does not mention this operation in his book. **Kelly** originally devised the operation of abdominal fixation, and has it demonstrated in all sorts of ways, but because he did not invent the Alexander operation he never mentions it. In speaking of the shining, glistening cord, I was referring to the tendon of the round ligament and not to the round ligament itself as some have understood it. I know **Doctor Kellogg** has been criticised for operating in so many cases, and I confess that I had something of the same feeling as the gentlemen who have spoken tonight. I saw **Doctor Kellogg** do this operation.

He asked me to examine the first case he was going to operate upon. He decided it was not a case for the Alexander operation but rather one for an abdominal operation. He took out a small ovarian tumor. The next case was one in which he first curretted, then did a trachelorraphy and then shortened the round ligament, and it was done just as he describes it exactly. He is a very dextrous operator, and when I looked through the institution over which he presides I did not doubt he could do that number of operations. **Doctor Wertheim's** operation is too complicated to compare with that of **Alexander.** The Germans criticise **Kellogg** for doing so many operations. I find **Wertheim** does his operation just as many times.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, APRIL 25, 1899.

The President, FREDERICK W. ROBBINS, M. D., in the Chair.
Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Hal C. Wyman read a paper entitled "Gall-stone Surgery." (See page 318.)

Doctor LaFerte: I am sorry not to be able to discuss the paper intelligently as I have had no experience in this line; in fact I do not think I ever saw a case of gall-stone, and surely never did an operation for it. I should like to ask whether the adhesions which are present when the common duct at its junction with the duodenum is slit according to the McBurney method, are firm enough to hold without any sutures?

Doctor Bigg: I am glad to know that the general practitioner has something to fall back upon in his treatment of this disease. While I have had no wide experience with this disease it has been enough to make me flee from the older methods of treatment. The paper makes me feel enthusiastic over the way surgery is advancing. It is gratifying to know that we are tending to make sure the probability that medical science will be an exact science.

Doctor Warren: I was interested in the last of the paper about the diet and the possibility of recurrence. Some years ago, while summering in Carlsbad, I was skeptical as to the treatment by the waters in removing gall-stones, yet I observed a good many cases wherein there was a softening of the stones under the Carlsbad treatment. **Greenberger** and **Ganz** both thought they dissolved, but could not tell exactly how it was done. The diet seems an important part of the treatment.

Doctor A. S. Holmes: If the cases can be treated by diet, what percentage of cases can we state that will need an operation? What percentage will relapse after an operation?

Doctor Maire: While I have had no experience, yet the treatment by surgery seems practical and safe. The common duct seems easily reached.

Doctor H. D. Jenks: The frequency with which gall-stones are found postmortem, and yet in which the stones have produced no symptoms, would lead us to question how often and for what causes should the surgeon be justified in operating. The fact that a stone is probably present would not seem to be a sufficient reason for having it removed.

Doctor Robbins: My remembrance is that gall-stones are found in one out of every eight autopsies. The rule for operation should be chronic gall-stone pain with jaundice. Oil in large quantities seems to have solvent effects upon gall-stones. It is remarkable to see the number of cases operated upon, and operated upon with such perfect results. The mortality is slight.

Doctor Wyman: Biliary surgery has often suffered from misapprehension.

By pinning faith to gall-stones the cause of them has been ignored. They are an incident rather than a cause. My view is that we should look at the biliary tract as we look at the urethra. We know that in catarrh and inflammatory trouble there is an extension from the duodenum to the duct and from there to the peritoneal covering. We can compare it with extraurethral irritation. Many of the cases for operation are due to kinking and twisting and result in obstruction. The stone has little to do with them. In closing the wound in the common duct, we should see that there is a strip of *mucous* membrane extending to the gut. If there is none there will be a fistula. These fistulæ close in from three to twelve months. When a patient discharges quarts of bile in the twenty-four hours there seems to be no pain and they get along all right. I have tried to stop the discharge without results.

EDITORIAL ARTICLES.

HOW TYPHOID FEVER SPREAD AMONG OUR SOLDIERS.

It was well known a year ago that numerous typical cases of typhoid fever were found among our soldiers in the several army camps. It was more than suspicioned, however, that a more serious outbreak of this disease occurred than we were desired or expected to believe. Rumor warned us of both innocently mistakened diagnoses and purposed deception regarding the exact condition of our troops. A busy press kept us well posted but there was an uncertainty which was partially dissolved as the "boys" came home or were received into the various civil hospitals throughout the country. Now, by the publication of a semiofficial communication from Major Vaughan, of the Commission appointed by the Surgeon-General to investigate the spread of the disease, we are still more reliably informed as to the real state of affairs. From this report, published in *The American Journal of the Medical Sciences*, there seems to have been considerable confusion with regard to the ailments of the sick, many having been diagnosed as malaria, chronic indigestion, et cetera, notwithstanding an unusually high mortality. Although malaria was reported hundreds of times the Commission have inferred, from a study of the facts obtained, that genuine malarial fever was a very rare disease, and that all such protracted cases were really typhoid in character. Even were it not for the proofs adduced this view might well receive serious consideration on account of the aversion that many officers seem to have had to the reporting of typhoid fever. That such perverse action would materially favor the increase of the epidemic is obvious from the carelessness which would naturally result and contribute largely to the spread of the disease. In searching for the sources of infection the milk and drinking water would naturally be presumed to have been important elements. The Commission, however, consider these to have been free from bacterial infection and to have had little or no influence upon the spread of the disease. The factor of greatest importance was the fecal matter and the manner of its disposal. Some of the camps were provided with troughs connected with hydrants and sewers, others with tubs or half barrels, but most of them with pits. In all of them, but especially in the tubs and pits, "flies swarmed over the infected fecal matter and then walked over the food at the mess tents." Besides this, moreover, fecal matter was frequently deposited upon the ground so that it became impossible to walk through parts of some camps without soiling the shoes. It seems beyond belief that, in the midst of an epidemic of this sort, more care was not bestowed in attempted sterilization of fecal accumulations and yet, according to the author, such was the case in some of the camps, notably those of the second division of the Seventh Army Corps. As not only the saving of lives but also the efficiency of an army depends more upon preventive than upon curative medicine it should be apparent to all that military hygiene should be most rigidly enforced and to this end medical officers should be given more authority and responsibility, and withal this branch of our industrial life should be represented in the President's cabinet.

THE RELATION OF BUILD TO LONGEVITY.

THAT the relation of height to weight has some bearing upon the prospect of longevity has always been presumed upon by Life Insurance Companies and has even longer found credence in popular opinion. We are accustomed to hear the man or woman of large frame, stout build and florid face spoken of as being the picture of health and having the promise of long life, and on the other hand the thin and tough person is often regarded as tenacious of life as the average or even more. In this matter as is generally found in others the truth lies between the two extremes. In the first place the assumption of an average or standard, which we call the normal, is virtually an acknowledgment that an immoderate variation from this is abnormal and is to be regarded as unfavorable. Moreover the facts obtained from mortality tables studied from the standpoint of build point to this as an important factor in the selection of risks. Not only do those of abnormal weight fail to reach the advanced ages to which normal weights attain but, as a rule, they die even before the natural expectation of life. It has been clearly demonstrated by large numbers of selected individuals, such as have been regarded as favorable risks for insurance, that in general the endurance of abnormal weights, both over and underweights, falls below that of average persons. The interesting observation has also been made that, other things being equal, the underweighted live longer than those overweighted to an equal degree. Why this is so is not evident unless it be that the extra weight of the latter is itself the vicious cause of a still greater accumulation of fat by being an impediment to adequate exercise.

The causes of deaths among these abnormal individuals are both interesting and important in this connection. Bearing upon this point is a table reported by DOCTOR SHEPHERD, in *The Medical Examiner*. He has reduced to percentages the deaths among 26,222 persons dying from all causes, classified as over and underweights, that is, twenty per cent. variation from normal. This table he reports as the experience of the Connecticut Mutual Life Insurance Company, 1846 to 1895, inclusive:

CLASS.	UNDERWEIGHT. PER CENT.	OVERWEIGHT. PER CENT.
Tuberculosis, ...	22.1	1.9
Rheumatism and gout, . . .	1.1	2.2
Diabetes, ...	0.0	3.5
Nervous diseases, ...	14.	23.
Heart disease, ...	6.	15.5
All circulatory diseases, . . .	7.8	17.9
Pneumonia, ...	12.	6.5
All respiratory diseases, . . .	16.4	9.
Digestive diseases, . . .	7.5	8.5
Kidney diseases, ...	5.2	9.7

It will be noted by reference to the above table that the underweighted are especially predisposed to tuberculosis, nervous and respiratory diseases, while the overweighted show a tendency to nervous, heart, circulatory and kidney diseases. Pneumonia, which we are wont to regard as more fatal among stout persons claims twice as many victims among the thin. Diabetes is rarely to be found among the light weight though it is comparatively frequent in the opposite class. The subject would be still more clarified by comparison with this of a similar table of percentages of deaths among normal weights, but the contrast presented here between the two classes is so pronounced as to forbid doubt concerning the effect of build upon resistance to disease processes.

ANNOTATIONS.

NATIONAL HEALTH MOVEMENTS.

THE Wayne County (Detroit) Medical Society, through a committee of which DOCTOR AMBERG is the industrious Secretary, are investigating the establishment of a National Board of Health and considering the means by which there may eventually be secured a uniformity of the requirements for the license of practicing medicine throughout the United States. As the profession are well aware, the former movement has been in progress for some time, having been initiated by the American Public Health Association and later endorsed by the American Medical Association and other organizations. The need for a central board better adapted than our present system has long been apparent, and now with the addition of our colonial dependencies has become more imperative. With the reciprocity idea regarding the practicing of medicine in the several States we are much in favor. Its adoption would relieve many embarrassing situations, advance the interests of medicine and promote the general good. The support of the several State Boards is to be enlisted in these causes and it is hoped they may be much furthered.

CONTEMPORARY.

THE COSMIC ELEMENT IN DISEASE.

[THE INTERNATIONAL MEDICAL MAGAZINE.]

THE cosmic element in disease is a field in which the most powerful microscope or the most extended research has shed no light, and yet in the perfect distribution and adaptations of life, there is no room for doubt that the great infections come under the dominion of law just as other living principles, and that the law will some day be known is quite probable. Why are some diseases cyclical in their appearance, or why do others, like the semiactive volcano, suddenly break into frightful activity and leave widespread death in their wake? What this strange relation is between infective disease principles and the forces of the planet is too subtle for our present analysis; but analogy suggests its existence.

Within historic times syphilis and leprosy have once taken on an acute epidemic character which invaded practically the world, and yet Science has nothing to offer in explanation of such a phenomena. No one for a moment thinks any new infirmity was launched on suffering humanity by the jealous gods, for doubtless prior to this time (1495) syphilis was a mild or even much milder disease than in our own period. It is not sufficient to regard disease as fixed in character, for, like all life, the infections likewise are probably evolutionary, and show in the changes of the planet's life just as higher orders. It is entirely erroneous to conceive of disease today as being the same that vexed and destroyed the tertiary monsters or our primitive ancestors. The law of evolution is all inclusive, and man's diseases are changing like himself. As races of men, animals and plants have fulfilled their destiny in Nature's economy and passed away, so their diseases have likewise probably perished with them. In what way new diseases may develop, is not clear; but, as new types of men are developing from their predecessors, entirely differing in features, temperament and character, so the infective diseases have possibly varied in the ages. The kinship of variola, vaccinia and varicella, of measles, diphtheria and scarlatina, of syphilis, tuberculosis, cancer and leprosy, would strongly suggest a common ancestry for some of these types which have been modified in man by his departure from the plane of animal life.

All the great epidemics are growing milder, aside from sanitation, vaccination and any limitations we may place about them; but whether from the environment of civilization or their innate tendencies is unknown. We may fancy ourselves freed from the terrors of cholera, plague and small-pox before many years; but does not the influenza arise without warning in the most various parts of the earth and spread over it without reference to any law in our knowledge, and may not other and even more destructive diseases develop, of the same character?

Could we but reveal the pathology and bacteriology of the past, what a marvelous tale would be unfolded to our eyes! The forces of life are also the forces of death, and the secret of the diseases with which man has warred for supremacy since the beginning is locked up with the mystery of his destiny, and beyond his control and cure cosmic relations operate for their perpetuation in the economy of existence which no understanding can encompass.

MEDICAL NEWS.

A SUCCESSFUL MEDICAL GATHERING.

The recent meeting of the Upper Peninsula Medical Society was an event that brought together the largest number of physicians ever assembled in the Lake Superior region. The organization, which previously registered a very flattering membership, was still further augmented on this occasion by the affiliation of forty eligibles, rendering the total enrollment about one hundred forty at the present time. The president, Doctor Harison, of Sault Sainte Marie, wielded the gavel and expedited the reading and discussion of a goodly number of papers. The profession of Calumet tendered a banquet to the visiting physicians, and the toastmaster, Doctor Pomeroy, assumed the responsibility of furnishing sufficient postprandial wit to season the occasion. The following officers were elected for the ensuing year: President, Doctor E. H. Pomeroy, of Calumet; vicepresidents, Doctors C. F. Hicks, of Escanaba, and F. McD. Harkin, of Marquette; secretary, Doctor S. E. Cruse, of Iron Mountain. The society adjourned to meet at Mackinac Island in June, 1899, probably on the day preceding the meeting of the State Society which will occur at the same place.

THE PASSING OF LAWSON TAIT.

Mr. (Robert) Lawson Tait, of Birmingham, England, died suddenly at his country residence, Llandudno, Wales, June 13, 1899. He was a surgeon who achieved renown, and an apostle of surgical cleanliness, though not of chemical antisepsis. Born in Edinburgh, he studied at the university of the metropolis and became a licentiate of the Royal Colleges of Physicians and of Surgeons in that city in 1866. He was house surgeon to the Wakefield Hospital from 1867 to 1870. During this year he was elected a fellow of the Royal College of Surgeons, Edinburgh, and a year later he was similarly honored by the Royal College of Surgeons, England. About this time he was appointed surgeon to the Birmingham Hospital for Women, a berth that marked the advent of his daring surgery. He filled the chair of Gynecology in the Queen's faculty of medicine in Mason College, and was at one time president of this institution.

He was an honorary M. D. of New York, and an LL.D of Albany. Tait was one of the pioneers in abdominal surgery and attained success as an operator through manual dexterity rather than scientific knowledge. His fame in the profession was due to his work as an abdominal surgeon, but among a certain element of the laity he gained distinction as a champion of antivivisection, and in behalf of this cause he antagonized nearly the entire British profession. As an earnest of his position on this subject he bequeathed to posterity the following epitaph, which he announced a short time prior to his demise, and requested that it be placed over his tomb: "He labored to divest his profession of the blundering which resulted from the performance of experiments on the subhuman groups of animal life, in the hope that they would shed light on the aberrant physiology of the human groups."

THE JENKS MEMORIAL PRIZE.

The fifth triennial award of the William F. Jenks Memorial Prize of five hundred dollars will be made to the author of the best essay on "The Various Manifestations of Lithemia in Infancy and Childhood, with the Etiology and Treatment." A provision of the founder limits the scope of the essay to some subject in Obstetrics, Gynecology or Pediatrics, and decrees that "the Trustees, under this deed for the time being, can, in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may, in their judgment, be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said Trustees. In case they do not publish the said essay or paper, it shall be the property of the College of Physicians of Philadelphia." The Secretary of the Trustees announces that the competition is open to the world but the essay must be the product of a single person; that the essay must be written in the English language, or if in a foreign language, accompanied by an English translation, and sent to the College of Physicians of Philadelphia, Pennsylvania, before January 1, 1901, addressed to Richard C. Norris, M. D., Chairman of the William F. Jenks Prize Committee; that each essay must be typewritten, distinguished by a motto and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer; that the Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year; and that the Committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

RECENT PUBLICATIONS.

REVIEWS.

AN EPITOME OF THE HISTORY OF MEDICINE*

It might have been expected that a short history of medicine, popularly written, would have many admirers, for what in the history of the race could awaken an interest if not that which pertained to health and physical welfare? Additionally interesting also it becomes on account of the intimate relation it bears to other aspects of social life. The author of this volume is to be congratulated upon the genuine and general appreciation of his self-selected work which the early call for a second edition indicates.

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*By Roswell Park, A. M., M. D., Professor of Surgery in the Medical Department of the University of Buffalo, et cetera. Philadelphia: The F. A. Davis Company, 1899.

PROGRESSIVE MEDICINE.*

The second volume of this quarterly impresses us still more forcibly with the value of this method of recording the real progress in medicine and surgery. From the beginning to the end every page bristles with facts, not theories. current topics treated in an attractive style by eminent specialists. This particular volume presents the following subjects: Surgery of the Abdomen, including Hernia; Gynecology; Diseases of the Blood; Diathetic and Metabolic Disorders; Diseases of the Spleen, Thyroid Gland and Lymphatic System; Ophthalmology. The plan of work outlined in the preface to the first volume has been as faithfully executed in this one. No unfavorable comment is possible.

*Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo; handsomely bound in cloth; 472 pages, 56 illustrations and 3 full-page plates. Lea Brothers & Company, Philadelphia and New York.

LEGAL DECISIONS MEDICAL.*

This small volume, though it vitally concerns medical men, is designed more especially, perhaps, for prosecutors of medical law cases. It presents concisely and plainly the relation of dentistry and pharmacy to medicine, gives notes of American legal decisions affecting medical practice, fees, malpractice, evidence, excise laws, public health and miscellaneous information. A brief is also added on the prosecution of unlicensed practitioners and an article on Christian Science. Altogether it is a compendium of useful knowledge.

*By W. A. Purrington, of the New York Bar; Counsel of the Dental Society of the State of New York; Lecturer on Medical and Dental Jurisprudence in the New York College of Dentistry; one of the Collaborators in "System of Legal Medicine" by Allan McLane Hamilton and others, et cetera. New York: E. B. Treat & Company, 1899.

SEXUAL IMPOTENCE.*

As the author observes at the outset, great courage is required to speak the bare truth about sexual impotence. He, however, has canvassed the subject boldly in all its bearings and yet in a most unpretentious but dignified manner remarked upon the most secret as well as the commonest aspects of the sexual life. In the consideration of mooted points as in those fairly well settled he has evidenced a rare judgment, the outgrowth of no inconsiderable experience. Treatment has been thoroughly covered, the newer methods by the use of suspension and hypnotic suggestion receiving proper notice. The author is one of those who have high ideas as to the importance of this subject and his work is characterized by a practical good sense.

*By Victor G. Vecki, M. D. From the author's second German edition, revised and rewritten. Price $2.00. Philadelphia: W. B. Saunders, 1899.

DONDERS' ESSAY ON REFRACTION.*

This littte book comes to us like a voice from the dead. All of Donders' work on refraction is classical, and, except in methods, he left little undone. A perusal of the work will prove instructive to all. The book is, indeed, a beautiful little addition to our libraries. E. S.

* By Chas. A. Oliver, M. D. P. Blakiston's Son & Company, Philadelphia.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

THE DIAGNOSIS OF SEPTIC DISEASES OF THE BRAIN AND ITS MEMBRANES FROM THE STANDPOINT OF THE OCULIST AND AURIST.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Among the clearest duties of the oculist and aurist to the general profession is that of affording correct appreciation of the symptoms displayed by the eye and ear, as they bear upon the recognition of disease and diathesis. The retinitis of albuminuria and diabetes, the hemorrhagic retinitis of gout, the Argyl-Robertson pupil in ataxia, the occurrence of interstitial keratitis as a revelation of inherited syphilis, and the choked disc of cerebral tumors are all examples of what I refer to. It has been supposed that the circulation of blood in the optic papilla gives an accurate representation of the cerebral circulation, hyperemia of the papilla being present in the conjestion of the brain, anemia of the papilla in cerebral anemia, et cetera. This is, however, not always the case.

Papillitis—inflammation of the ocular portion of the optic nerve—is one of the most important symptoms of cerebral lesions. While it is not present in every case, it exists in a large majority of cases. Exceptionally, papillitis is found in mastoiditis without endocranial complication. In extradural abscesses around the sinus it may be the only symptom. Papillitis, *per se*, does not give any indication of the location of the abscess. The visual power may be normal despite pronounced optic neuritis, hence, an ophthalmoscopic examination should be made in all patients who present suspicious cerebral symptoms, even though complaints of eye troubles are wanting. What is known as choked disc, too frequently not differentiated from papillitis, is a swelling, an edema of the intraocular portion of the optic nerve and is usually due to brain tumors. Papillitis, we find more frequent in the various forms of meningitis. In suppurative meningitis there is a characteristic abundance of pus cells in the intermembranous spaces, and in the connective tissues of the optic nerve.

Read before the Michigan State Medical Society at the Kalamazoo meeting.

Hemiopia is an indication of cerebral lesion; while it may be due to a basal lesion, it may also originate in a lesion more highly situated, even in the cerebral cortex. Temporal hemiopia is, however, a positive sign of a lesion at the base. Paralysis of one or more of the ocular muscles is a frequent symptom, and constitutes one of the most important means of determining the site of a cerebral affection. When of cerebral origin the diagnosis is rendered comparatively easy by the presence of other concomitant symptoms.

Inflammation of the middle ear, relative to intracranial inflammation, is a most important subject, as it is in the middle ear and antrum that most of the pathogenic processes generate, which afterwards spread intracranially and affect the brain and its membranes. I wish to emphasize a fact, well known to aurists, but perhaps not so to the general physician, which is, that an *extensive purulent disease of the middle ear may exist without any discharge from the external ear, and without perforation of the drum membrane*, and this point should not be overlooked while investigating cases of intracranial inflammation sequent to an apparent acute disease of the tympanum.

Chronic diseases of the middle ear, however, are the ones most prone to cause extension of the pathogenic process to the brain cavity. Optic neuritis, while of frequent occurrence in septic diseases of the brain and membranes, usually occurs in the latter periods of the disease—in abscesses during the second stage. Cerebral abscess is an acute affection, and the neuritis does not have time to attain, as a rule, very great intensity, hence it is seldom seen to such a marked extent as in brain tumors. It is seldom of the same degree of intensity in both eyes and is not infrequently wanting in cases which run a rapid course.

Marked papillitis may be present without disturbance of vision. A suppurative otitis media with erosion of the tegmen tympani is often, if not always, accompanied with a meningitis sufficient to produce a neuritis. Again, if the irritation in the tympanic cavity were sufficient to produce an effect on the carotid plexus of the sympathetic, it might easily cause irritation in the perivascular sheaths of the carotid venous plexus, as well as in those veins that pass directly from the tympanic cavity into the membranes.

Of course the absence of optic neuritis does not exclude septic disease of the brain, but when it is present and presents the special character described, together with the concomitant symptoms, it is a distinct aid to diagnosis. More or less paralysis of the ocular muscles may supervene. Pupillary phenomena are very commonly present in abscess of the brain and are of some importance as a help to localization. Mydriasis or myosis may exist and but one pupil be affected. In meningitis, however, both pupils are affected equally. Contraction (myosis) is the usual condition until a later stage or pressure occurs, when they both become dilated and fixed.

Thromboses of the cranial sinuses are not infrequent as a result of middle ear disease. Particularly is this the case with the lateral sinus, which is the one most frequently affected. Infective or inflammatory thromboses is often associated with meningitis, and occasionally with cerebral abscess. Eye symptoms may or may not exist. In thrombosis of the cavernous sinus, however, we always have marked ocular symptoms, illustrated perfectly by the following case which I saw in consultation with DOCTOR STEINBRECHER:

The history of the case was as follows: Four days before MR. O. H., aged twenty-nine, had called his physician on account of a small boil located on the neck between the sternum and thyroid cartilage which was accompanied with a general feeling of malaise. The boil was poulticed, but the center seemed to slough without marked suppuration; the tissues immediately surrounding the ulcer to a distance of one-half inch in diameter were of a purple hue and disagreeable appearance. The day I was called a small red pimple appeared on the side of the nose, but disappeared on the application of an ice compress. The night before I was called, a severe exophthalmos of the right eye took place. It had the appearance of an orbital cellulitis and was so diagnosticated by the physician in attendance. About 10:30 A. M. he called me by telephone to go and see the patient, and at that hour only one eye was affected.

I saw the patient about 11:30, one hour later, and found that both eyes were protruding about as far as eyes can and still be covered with the lids. So great was the protrusion and so hard the tissues, it was with difficulty I could raise the lids to make an ophthalmoscopic examination. The conjunctivæ were chemosed, pupils somewhat contracted and immovable, eyeballs pushed directly forward and absolutely immovable in any direction. The ophthalmoscope disclosed: Right eye—vitreous somewhat hazy, hyperemia of disc, great venous engorgement, the veins being black and tortuous. Left eye—similar condition with three small hemorrhagic infarctions in retina. Temperature 102°. Patient somewhat delirious, complaining of great headache. Had vomited some and had a severe chill that morning. From the condition of the eyes I diagnosticated thrombosis of the cavernous sinus from what I thought was a malignant pustule, and I prognosticated death soon. Patient grew rapidly worse, temperature going to 105° the same evening and he died that night.

There was also a puffiness of the mastoid region due to the blocking up of the emissaries mastodeum.

REPORT OF A CASE OF MARKED DISTURBANCE OF THE DIGESTIVE TRACT CAUSED BY AN UNDEVELOPED UTERUS.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

MISS S., aged twenty-one years, had been in school most of the time since seven years of age. She was well as a child, and until sixteen years of age, when she began to have, about monthly, periodical disturbances, manifested by pain in the back and pelvis and fullness in the head, with disturbance of digestion. These attacks were accompanied by a mucous leucorrheal discharge, which, once in two or three months was slightly tinged with blood, for a day or two.

The most prominent feature was the extreme derangement of the digestive tract for a week each month. This began with nausea which continued from twelve to thirty-six hours, and was succeeded by vomiting which occurred at very frequent intervals for from three to twelve hours, and left the patient in such a prostrated condition that she was obliged to keep her bed from twelve to forty-eight hours after the vomiting ceased. She could take but little food of any kind for from two to four days following; then her appetite returned and her digestion was apparently good for two and a half or three weeks, or until there occurred a repetition of the symptoms and derangements.

After nearly four years of these attacks, occurring eleven or twelve times yearly, the patient came to me for consultation and treatment. She had taken much medicine and with results decidedly unsatisfactory. She had become very nervous and the attacks were much dreaded. At that time she seemed fairly well developed generally, but there had been no show of blood from the genital canal for over four months.

Upon examination I found the external organs normally developed. The ovaries were of normal size and shape but the uterus was infantile; its interior measured one and one-half inches, and was as small in all of its other diameters; the uterine canal would admit without difficulty a medium-sized uterine sound.

I advised stimulation of the uterus by pelvic massage, three times weekly. At the end of three weeks she had a menstrual period with a fair flow of blood for three days, accompanied by nausea for four or five hours but no vomiting.

*Read before the MICHIGAN STATE MEDICAL SOCIETY, at the Kalamazoo meeting.

As she expressed it, "there was ten times more flow with one-tenth of the amount of disturbance." Six weeks later another similar period occurred with about the same character and degree of derangement as with the first, but not so long continued. Four weeks later there was another period with a freer flow, slight nausea and no interruption from school work. The following periods occurred once in four or five weeks with but slight inconvenience. At the end of six months she said she was well and indeed looked well, and the massage was discontinued. No medicines of any kind were administered, and no other treatment was given. At the end of a year and four months, the interior of the uterus measured two and one-fourth inches, and all its diameters had increased in about the same ratio.

The results in this case more than met my most sanguine expectations, after having noted the slower favorable changes in several other similar cases. I would add that I advised the patient to take extra precautions against exposure to cold at the time of her periods.

This, I admit, is an extreme case illustrating a class of patients that the general practitioner often sees before the gynecologist. There are all grades of disturbances with these patients, ranging from the very slight to the most severe, according to conditions. I have seen several patients with undeveloped uteri and have noted with interest their peculiar liability to interruptions of the functions of the trophic centers. I have also noted the tendency to vicarious menstruation, to disturbance of vision (even producing blindness in a few cases), besides many other derangements, such as nervous disorders. They are most often found among school girls whose mental development is too often urged at the expense of symmetrical physical development and are difficult to relieve without entire change of habits. Not only do we observe these derangements when the reproductive organs are undeveloped, but also when they are deformed and some obstruction exists. Puberty is a most rapid developmental period, and is liable to go to extremes. The girl's physical development at this time needs most careful supervision.

STUDY OF SOME CONDITIONS THAT LEAD TO FIBROID CHANGES.*

BY WILLIS S. ANDERSON, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

A PERSON who has passed his prime, and is approaching the three score milestone of life, is conscious that the buoyancy and elasticity of youth gradually diminish with advancing age, and that he is unable to accomplish tasks with the same ease as in former years. The question naturally arises, as this gradual change takes place, whether this is a physiologic or a pathologic process.

The tissues in the embryo are lowly organized. There is a predominance of the cellular elements with but little of the fibrous framework. This is less marked in childhood, and as the individual approaches maturity there is a gradual condensation of the tissues, with an increase of the connective tissue at the expense of the cellular elements; and in old age this process reaches its climax. Were these changes never present except as an accompaniment of old age, then we might call them physiologic; but the fact is, that at all ages similar changes may take place as a result of disease, which are not distinguishable from the senile process.

Physiologic old age is a natural process: it is the gradual and unconscious dimming of the intellectual faculties; ideas of time and place, and the memory of recent events are lessened; the ambitions of youth and the energy of manhood gradually sink into a desire for rest. The intellectual faculties are finally lost, one by one, until the animal functions are no longer required to support the faded intellect, and life sleeps unconsciously into death, obeying the strict law of nature. True euthanasia is the natural physical death, which is as unconscious as the awakening at birth. This ideal death is seldom realized, for accident and disease cut short the life of the great majority of persons long before the physiologic span is reached; but those who have withstood the vicissitudes of time and have reached an advanced age present certain features that form an interesting and profitable study.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The changes which take place with advancing age occur so regularly as to be considered physiologic. Those most familiar to us all are the loss of elasticity and sclerosis of the arteries, changes of the hair, skin, eyes, et cetera. These can all be summed up, in a general way, as an increase of connective tissue. It would seem as if a man's life were measured by the rapidity of this connective tissue change, thus giving rise to the old medical adage, "A man is as old as his arteries;" not meaning by this that the change is confined to the vessels, but rather that they are an index or type of the process that is taking place in all of the organs and tissues of the body. It would seem to be a fair inference, from the study of this process, that old age is measured by the amount of this connective tissue change, and that in every one these changes will eventually cause death, if life be not prematurely shortened by accident or disease. When this process occurs prematurely, or to an excessive degree, it may be looked upon as pathologic, although no dividing line exists separating normal from abnormal tissue. Many persons, as they approach the eventide of life, are conscious that the ripening of age is bringing with it physical infirmities, although they may be unwilling to admit that they are less robust than formerly.

The writer, during the first years of practice, when called to attend an aged person for some slight affection, was at loss, many times, to account for the varied and unrelated symptoms of which the patient would complain. Some had a cough, a dryness of the throat or shortness of breath; others, gastric disturbances, which they called dyspepsia, or bowel trouble, sometimes with constipation or diarrhea, or many times these symptoms alternating; others complained of transient dizziness, nausea and vomiting, frequently with palpitation of the heart; still others suffered from general malnutrition, without any specially marked symptoms. One patient might have one or more of these symptoms. A careful examination oftentime gave but few objective signs. A few days' rest with simple treatment frequently improved the condition; but soon the same or other symptoms would appear, sometimes after a slight exposure, indiscretion in diet or unusual fatigue. The comparatively poor results that followed treatment led the writer to look for some common underlying cause, which might account for the various symptoms. An understanding of the senile changes which take place in old age, enables one more correctly to interpret the symptoms and successfully to relieve those various ailments, many times, which mar the comfort of the aged, and cut short many a happy and useful life.

The changes occurring in the circulatory system are the most important. According to Balfour, the systemic arteries in early life have a large calibre in comparison with the size of the heart and the length of the body. This gives low blood pressure and a rapid pulse rate, insuring an abundant supply of nutriment to the tissues, the diffusion of blood-plasma and the rapid growth of the body. The growth of the arteries in calibre does not keep pace either with the growth of the body or with the growth of the heart in amplitude and strength; so, as age advances, the blood pressure gradually increases with a slowing of the pulse rate, until manhood is reached. As development progresses, the arterial coats undergo a change of structure, which renders them less elastic and more rigid. The loss of resistance of the arterial coats, together with a tendency to failure of the heart, marks the beginning of senile atrophy. The arterial changes affect all of the organs, but not equally. The heart and the brain are not normally affected by their senile failure. The heart is hypertrophied in old people. This change has been recognized by Charcot, Cohnheim,

Berneke, **Bizot** and others, although there is some difference of opinion as to the constancy of the condition, and as to whether it is a normal or a pathologic change. **Bizot** believes that senile hypertrophy occurs without exception, mainly limited to the left ventricle, and accompanied by dilatation of the arteries and thickening of their walls; and that the loss of elasticity of the arteries is sufficient to account for the changed structure of the heart. The reason assigned by **Berneke** for the brain's largely escaping this senile change is that the internal carotids retain their elasticity and calibre, which gives the cerebral capillary area a higher blood pressure than a similar area in any other organ, so that, as **Balfour** states, brain failure indicates local malnutrition, usually the result of cardiac failure or atheroma of the arteries.

Meigs believes that "compensatory hypertrophy of the heart," as ordinarily described and understood, has no existence; but that all hypertrophied hearts are degenerated and weakened ones. He questions the truth of the generally accepted ideas in regard to the increase of blood tension with arterial sclerosis, and suggests that the apparent increase of tension may be due to the impression given by the thickening of the arterial walls. A number of excellent plates in his work, "The Origin of Disease," illustrate the fibroid changes in the heart muscle, and the thickening of the arterial walls, with the narrowing of their calibre. **Meigs** has treated this subject from a clinical standpoint; and while, perhaps, his pathology might not always meet with the approval of the pathologic specialist, his broad conception of the subject and the practical deductions made give a useful basis for the understanding of these rather obscure conditions. When one considers that these fibroid changes, whether as an accompaniment of old age or a change due to disease, usually involve most of the organs, we can then more readily understand the reason for the various symptoms of which these patients complain.

The fibroid changes are invariably accompanied, sooner or later, by circulatory disturbances, which give rise to a number of general symptoms, such as coldness or numbness of the extremities, transient dizziness, shortness of breath and the like. We also have the local symptoms referred to the various organs. The weaker organs are the ones earlier attacked. We find the main local symptoms referred to the stomach and bowels in those whose digestive organs are sensitive to change; to the lungs when every slight exposure affects the mucous membranes; or to any of the other organs that are naturally susceptible or weakened by previous disease.

We might illustrate these two groups of symptoms by referring to a case of an elderly German woman who had enjoyed good health for over seventy years. A few months before the writer was called to see her she had developed a cough as the result of a slight exposure, with gradually increasing shortness of breath, which had persisted in spite of the administration of a number of cough mixtures. She was a well preserved woman, although the marks of age were plainly visible. An examination revealed a few signs of chronic bronchitis of moderate degree; marked thickening of the radial artery, and a weak heart impulse. It was easy to understand that there was a general senile fibrosis, and that the bronchial symptoms, while important to her, were only incidental to her general condition. The heart was not able to perform the extra work it was called upon to do without artificial aid. The treatment necessary was clear. Instead of trying to overcome her symptoms by bronchial medication, we had only to stimulate her heart to give relief. Under the use of digitalis and nux vomica the cough disappeared, the dyspnea lessened, and she was made comfortable.

Transient dizziness in elderly persons is common. The exciting causes of this symptom may be many, but back of them all and as an important factor, we will find circulatory changes. A more serious symptom is transient paralysis, which passes off in a few hours or a day, leaving no impairment of function. It is difficult to explain the exact cause of these paralyses, but one will hesitate to [illegible] due to small cerebral hemorrhages, so transient are they in character. **Meigs** makes the suggestion, that they may be due to the temporary blocking of a small vessel. He has found small thrombi many times, in various scleroid arteries, and draws the inference that symptoms may arise when such a condition exists in the brain. Whatever may be the exact cause of this symptom, the practical fact seems to be, that these patients often eventually succumb to a cerebral hemorrhage, so the prognostic importance of this symptom may serve as a guide in the use of such means as will tend greatly to retard this fibroid change in the vessels.

Elderly persons frequently complain of palpitation or irritability of the heart, with dyspnea; sluggishness of the bowels and gastric derangements. These persons usually have marked fibrosis of the arteries, with a senile heart. The writer has had under his care within a year a hardy Scotchman, aged seventy-two years, who complained of palpitation of the heart, shortness of the breath, cough, constipation, loss of appetite and pains in various portions of the body. The important signs revealed by the examination were a hypertrophied heart, with a forcible diffused beat, displaced to the left; a muffling of the sounds at the apex, but no murmur; and at the base, the second sound was accentuated. After about six weeks' treatment with iodide of potassium, the patient was greatly relieved of his disagreeable symptoms and expressed himself as feeling many years younger. Many elderly persons complain of a dryness of the throat that does not seem to depend upon mouth breathing, kidney or gastric disease, or the ordinary atrophic catarrh, but rather appears to be due to a senile atrophy of the mucous membrane.

There is a class of cases, more frequently seen in dispensary practice, that may properly be considered in this connection; namely, chronic bronchitis, emphysema and fibroid phthisis. These affections are seen more frequently in middle aged men of the laboring class, although no age, sex or condition is exempt. Pathologically these diseases are related, inasmuch as each is accompanied by an increase of connective tissue. This change is not sufficiently appreciated in connection with emphysema. The form under consideration—substantive emphysema—is described by **Delafield** as "a chronic productive inflammation of the lungs with the formation of new connective tissue, a process analogous to similar chronic inflammations of the endocardium, arteries and kidneys, and one which, like them, may constitute a formidable disease, or an unimportant senile change." Clinically these cases occur most often among the hard working classes, those who are laborers and especially those who work in damp, unhealthy places. These affections illustrate the effect of disease in producing premature senility. If the affection has existed for a considerable length of time these patients usually present the appearance of age far beyond their years. The bowed shoulders, the wrinkled skin, the shortness of breath, the thickened arteries all speak of life's span too quickly run.

The effect of disease in the production of fibroid changes and premature senility is best illustrated by hereditary syphilis, and to a less extent by malnutrition in children. Their shrunken bodies and withered faces form a short link which connects infancy with old age. Pathologically this fibroid change is not distinguishable from that of senility; so we may have fibrosis at all ages, naturally with advanced years, artificially as the result of disease.

The kidneys are frequently the seat of fibrosis. The pathologic changes in them have been studied with great care, and elaborate classifications, with their accompanying symptoms, are familiar to all. The chronic contracted kidney is too often considered a pathologic entity with well defined symptoms, rather than a local manifestation of a process going on in many of the organs of the body. Symptoms are often ascribed to the kidney that properly belong to the heart or other organs. At the postmortem examination we may find the fibroid changes so general that one is unable to determine in which organ the change commenced.

Chronic diseases of the liver are regularly accompanied by fibrosis. The most frequent of the morbid changes of this organ is the so-called nutmeg liver, which is frequently an accompaniment of chronic heart disease. Passive congestion is commonly attributed as the cause of this change; but as we find connective tissue increase in this as well as in other organs as the result of chronic disease, the question arises, is not this fibrosis incidental to, or an accompaniment of, rather than a lesion dependent simply upon passive congestion. The different forms of cirrhosis and amyloid changes, although commonly classified separately, have so many points in common that they might be considered as a different form of the same pathologic process, resulting from some common underlying cause. The changes in the liver, as in other portions of the body, affect the blood-vessels; and of these the hepatic artery is the one most frequently involved. The walls may undergo every possible degree of thickening, even to complete obliteration.

The etiology of fibrosis is obscure, although certain causative factors are recognized. Heredity seems to have its influence. The members of certain families are prone to arterial degeneration at an early age, and other families are remarkable for their longevity. Just why this is so it is difficult to say, but there would seem to be an inherent difference in the tissues of some persons which makes them more resisting than others to fibroid change. Males are more subject to this condition than females, probably because of their harder work and proneness to irregular habits. It usually occurs in those who have passed middle life, but no age is exempt. Syphilis has been generally recognized as a frequent cause of fibroid change; and to a less extent rheumatism, gout, diabetes and infectious diseases. Overfeeding, with the habitual use of highly seasoned foods, and the use of alcoholic beverages, are accepted as important etiologic factors. While the above causes may be important, they do not explain the origin of disease. Many theories have been advanced. Some think the initial change is in the blood or in the vessel wall; others, that it is a trophic lesion of the nervous system. Perhaps the most popular theories at the present time are the uric acid and the toxin theories. It would be beyond the province of this paper to discuss the merits of these various theories. The writer feels that none of them satisfactorily explains its origin, and the saying, for instance, that fibrosis is due to toxins in the blood is as unsatisfying as it is indefinite, and from a practical standpoint does not aid us in understanding the condition or in staying its progress.

Treatment.—When we understand that the fibroid changes are not confined to any one organ, and that this general condition is induced, or its progress accelerated by vicious living, we have a suggestion, at least, as to the rational mode of treatment. The management of these cases naturally divides itself into two groups: first, measures that will prevent or retard the further development of fibroid tissue; and second, symptomatic treatment as directed to the various organs and symptoms. Under the first head, the general management is the most important, which consists in the regulation of the manner of living, hygienic surroundings and diet. These patients should be made to understand that their lives may be prolonged and their comfort insured by a strict observation of the rules of right living. Those who have lived high should be made to abstain from rich foods, alcoholic beverages, irregular hours, excessive work and worry. As to exercise, we must be governed by individual conditions. Where the degenerated heart muscle is weak and incapable of doing its full amount of work, then the best results will be obtained from a quiet life or even complete rest for a while; but if the heart be strong, then moderate exercise, stopping short of fatigue, may be allowed. A moderately warm, equable climate and an out-of-door life will increase the longevity of these patients. In dispensary and hospital practice these regulations cannot often be enforced; but simple rules as to the best manner of living will often be followed.

While our therapeutic resources are limited, still we have a few drugs that seem to influence favorably the condition of the circulation and heart, and retard the progress of fibrosis. Iodide of potassium is our most valuable drug. Its beneficial action in arresting or retarding fibroid change rests largely upon empirical grounds, but that it is of service can hardly be doubted by anyone who has used it extensively. It should be given in from five to ten grain doses, three times daily, and continued for a long time. Arsenic and phosphorus are among the other valuable alteratives. Digitalis and nux vomica, or its alkaloid, strychnine, are valuable because of their action upon the heart. There may be some difference of opinion as to when digitalis should be given. It seems to the writer that one should be governed by the condition of the heart. When that organ is weak it may be given combined with potassium iodide; or if very weak, with a low tension pulse, then it may be better combined with strychnine. MEIGS recommends the combination of tincture of digitalis ten drops and carbonate of ammonium two and a half grains, morning and night, or if the heart is more irregular than usual, or if the patient has giddiness, he suggests that it be given three or four times daily, according to circumstances. MEIGS cites a case of an elderly man with a very irregular heart, who almost daily for ten years took two or more doses of the above prescription, with marked benefit. Any treatment in these chronic conditions, to insure the best results, ought to be continued over a long period. These patients do not always see the benefit at once, but if they follow faithfully the directions suggested, they ought to feel the improvement from month to month, although it may be so gradual that they will be unable to point to any special time when the tide of improvement set in.

The symptomatic treatment is so varied that it would be difficult even to outline a method applicable to any considerable number of patients. The excretory organs should be kept active, and the assimilative and digestive organs should be artificially stimulated, should they need such aid. The artificial digestants, such as malt, pepsin and the like, are of greatest service in chronic disease. If the bronchial mucous membrane be involved, the balsamic preparations, cod-liver oil, creosote and, at times, the stimulating expectorants, will be found useful.

912 CHAMBER OF COMMERCE.

A CASE OF APPENDICITIS WITH AN UNUSUAL COURSE.*

BY H. M. JOY, M. D., CALUMET, MICHIGAN.

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APPENDICITIS, with its sometimes peculiar and varying symptoms, has of late been brought so frequently to our notice that one hesitates to add to the list of reported cases already so numerous. The case I wish to report to you this evening, however, was an interesting and most instructive one. Interesting because of the peculiarity in the course of the symptoms, and instructive in that the signs upon which we usually rely as indications for surgical intervention, provided operation is refused at the onset of the disease, were absent while the necessity for operation was most urgent.

On June 29 I was called to see a man aged twenty-eight years, who said that he had been taken sick during the night previous with vomiting, fever and pain through the entire abdomen. His pulse was 80, temperature 100.2°, abdomen slightly tympanitic, pain general though slightly more marked in the region of the umbilicus, bowels constipated. In the evening the conditions were the same. The bowels had moved as a result of a cathartic administered at the morning visit.

I saw him again the following morning, at which time his pulse and temperature were the same as the day previous. Vomiting had ceased, and there was marked pain and tenderness in the right iliac region.

On July 1 his pulse was 76 and temperature 99.8°. There was no pain in the iliac region, and absolutely no tenderness upon pressure, while during the previous day no pressure whatever could be made without causing severe pain. At this time patient complained of very severe pain in the back in the region of the right kidney.

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*Read before the GRAND RAPIDS ACADEMY OF MEDICINE.

July 3, A. M.: Pulse 84; temperature 101.4°.—P. M.: Pulse 102, temperature 103.6°. Severe pain in the region of the kidney in front and behind. No tenderness or pain in appendix region.

July 4: Condition unchanged.

July 5, A. M.: Pulse 90; temperature 101.2°.—P. M.; pulse 92; temperature 103°. Pain in the region of the kidney intense. Three leeches were applied over the region of the kidney, which relieved the pain for a time. This returned, however, with increased severity.

On July 10 a slight fullness was noticed in the right loin. Pulse and temperature unchanged. The patient's general condition had of course become bad during these twelve days' illness. His appearance was one of marked sepsis, and I was firmly convinced that pus was present, but its origin and present location was somewhat uncertain. A question arose as to the correctness of the diagnosis of appendicitis made at the beginning of the illness. After the first forty-eight hours of illness the symptoms indicated trouble either in or about the kidney—nephritic or perinephritic abscess—though repeated urinary examinations showed no evidence of trouble in the kidney.

The patient was informed as to the situation and an exploratory operation advised, to which he consented. On the afternoon of July 10, with the assistance of DOCTOR HERRICK, an incision was made as for lumbar nephrectomy at the point where the fullness previously mentioned was noticed. This incision opened into a large abscess cavity containing about three pints of foul smelling pus. Exploration of the cavity showed it to be a retroperitoneal appendix abscess extending from the ilio-cecal junction to the under surface of the liver. The cavity contained, in addition to pus, a large fecal concretion and some disintegrated gangrenous material—probably a gangrenous appendix. The cavity was irrigated with a weak creolin solution and packed with iodoform gauze, and the patient returned to his room.

Improvement was rapid and marked. On July 30 the patient, against my advice, left the hospital with a small sinus still discharging some pus. Three weeks later a closure of this sinus was followed by a severe chill, high fever and profuse sweating. The wound was reopened and a large quantity of pus evacuated, after which recovery was uninterrupted.

PRIMARY SYPHILIS.*

BY RALPH H. SPENCER, M. D., GRAND RAPIDS, MICHIGAN.

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SYPHILIS is due to the presence in the system of a specific microbe. Bacteriologists have announced the discovery of this microbe, but convincing proof of the direct relation between the microorganism and the specific sore has thus far never been demonstrated. Clinical evidence is, however, as conclusive of its microbic nature as it is in many of the acute infectious diseases. It has been found that acquired syphilis and inherited syphilis confer immunity against subsequent infection. One could say that there is no exception to this rule unless one should see the indurated chancre with indolent swollen inguinal glands, followed by a typical roseola and mucous patches. In the absence of these, I should look upon the case as a pseudochancre, or a tertiary manifestation of a previous infection. It has been my privilege to treat many cases of syphilis during the past ten years, and I can recall but one patient in whom there was a suspicion of reinfection. This was a young man who had been under my care and observation for a period of about three years following his primary sore. He had been without symptoms for a year or more and I dismissed him, supposedly cured. In about six months he returned with what appeared to be a typical hard chancre, and admitted having had coitus with a prostitute some six weeks previously. This being an unusual case, I decided to treat it expectantly, and gave the patient some simple powder with which to dust the sore, and withheld constitutional treatment to await developments. Within a week or two the sore healed, and from that time up to the present, a period of some two years, there has been no syphilitic manifestation whatever.

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*Read before the MICHIGAN STATE MEDICAL SOCIETY, at the Kalamazoo meeting.

METHODS OF CONTAGION.

A convenient classification adopted by some writers is, immediate, and mediate.

Immediate or direct contagion usually takes place during sexual approach, by kissing, by the teeth of a syphilitic, or in the case of the medical man by wounds or abrasions coming in contact with the virus.

Mediate contagion is conveyed, not by direct contact, but by means of spoons, glasses, pipe stems, and articles innumerable upon which the virus may have been deposited. By this means many an innocent person becomes the victim of this disorder, which explains the frequency with which syphilis is diagnosed and successfully treated in patients who can give no history of primary infection, but who are evidently trying to tell the truth. I readily recall two instances of primary infection in the throat, in which I made the diagnosis, the patients having had no sore upon the genitals. Of these two, number one, a young man, had as a tertiary symptom a most obstinate form of palmar squamous syphilide. This patient was under my observation for a period of four years. He has now been free from any symptoms for about one year. Case number two, a young woman, by occupation bookkeeper and cashier, had developed a primary sore on the tonsil, which was seen by at least two specialists, and my diagnosis confirmed. This patient developed roseola before the sore in the throat was healed. Under specific treatment the throat symptoms and the rash rapidly disappeared.

Both of these cases denied any knowledge of the source of contagion, though both confessed to some ardent kissing.

TYPES OF SYPHILIS.

One who has seen and treated many cases of syphilis becomes impressed with the fact that some are very difficult to manage and require great vigilance to prevent serious manifestations, whereas other patients with but little treatment seem to suffer no inconvenience, and almost no symptoms of their disorder.

In the mild, or what might be termed benign type, the chancre and inguinal adenitis being the only symptoms, might lead one to doubt the accuracy of diagnosis, were it not proven beyond doubt by the development of tertiary symptoms later.

The malignant type is characterized by its acute course, the chancre sometimes resembling phagedenic chancroid, marked syphilitic fever, rheumatism, and well marked anemia. The eruption quickly becomes pustular and ulcers form deep enough to leave pigmented scars. Ulcerating gummata appearing in the secondary period are especially characteristic of this form of syphilis. Recurrences following hard upon one another are also typical of malignant syphilis; also early involvement of the bones and nervous system and the viscera are not uncommon.

White and Martin, of Philadelphia, who have published a recent work on venereal diseases, make a statement with reference to the malignant form in which they say: "The disease seems to depend not so much upon the virulence of the infection, as upon the lessened tissue resistance. Syphilis is prone to exhibit its malignant form in the weak, the anemic, the scrofulous, the tuberculous, and in pregnant and nursing women."

Now, my own experience in this form of disease does not agree with the writers above quoted. In the past ten years I have seen and treated three cases that were malignant in their nature, and in each instance the patient was born and brought up in the country. All had good family histories and were themselves the pictures of health until overtaken by this destroyer of the red corpuscle.

On the other hand, I have frequently treated patients who were anemic and tuberculous, and who would seem to have been the worst possible subjects; and their cases have been easily managed, with secondary and tertiary symptoms almost nil. My theory for this is that this latter class of patients may be suffering the results of the sins of their fathers, which are said to be visited upon the third and fourth generation, and are thereby partially immune by heredity.

The period of primary incubation varies from ten days to three months, the average being six weeks. As a rule, it is safe to say that any sore that develops ten days after exposure is a chancre. During the period of incubation there are neither general nor local symptoms. There is but little reason to suppose that the virus of syphilis remains localized during this period of incubation, nor do we know that it remains near the point of inoculation. In fact, there is plenty of proof that cauterizing a crack or abrasion soon after a suspicious contact has failed to prevent inoculation. It is very rare that the physician is consulted thus early, but should he be, I would deem it his duty to give the patient the benefit of the doubt, and cauterize or excise the fissure or abrasion. I have done this several times, and as yet have seen no case develop syphilis, neither had I any proof that there had been bona fide exposure. After the period of incubation and at the point of inoculation a chancre develops.

It is hardly necessary to weary an audience of experienced physicians with a minute description of the appearance of a typical chancre. That you can read in the text-books. My experience is that the real typical sore as described, has very many exceptions, so that I have come to base my diagnosis upon the history of the case and the future developments, rather than on the sore itself. Frequently it appears as a fissure or an abrasion, or, when located on the mucous membrane, as a superficial ulceration, covered by a grayish false membrane, with but little induration. Frequently I have seen cases of mixed infection, in which the patient had a multiple sore with the characteristics of chancroid, and within six weeks developed roseola and mucous patches. Frequently patients present themselves whose sores have been well cauterized by some other physician and their appearance so changed as to leave one in doubt as to their true nature. The patients who contract the sore, only occasionally know the date of their infection, so the physician has no guide there, and so in the absence of positive symptoms it has come to be my rule to postpone all constitutional treatment until secondary symptoms develop. This course I have never had occasion to regret. If there is a shadow of doubt about the diagnosis, how much better it is to have that doubt set aside by the appearance of the roseola before subjecting the patient to a course of mercury. The patient will also stick to his treatment for the necessary time required to cure better than when nothing but the primary sore has attracted his attention. I do not believe that the delay of a few weeks before beginning treatment will make any difference in the future of the case, or be of any disadvantage to the patient.

A word about the treatment of chancre, and I am done. Pages have been written, and long lists of cases tabulated to prove that excision of the chancre would prevent systemic infection. The possibility of effecting a cure in this manner is based upon the theory that the poison, after being absorbed lies latent just beneath the surface, throughout the period of incubation. This theory is not sustained by analogy. Other poisons absorbed into the body seem to be diffused very promptly through the blood. I abandoned excision and cauterization years ago, except when the sore shows a chancroidal tendency. For stimulating the indolent ulcer, I know of nothing better than black wash or dry calomel, and at other times the dry antiseptic powders, bismuth or aristol. Iodoform I no longer inflict upon the patient or the public.

THE TREATMENT OF DISEASES OF THE EAR.*

BY W. F. STRANGWAYS, M. D., FLINT, MICHIGAN.

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THAT I may occupy no more of your time than is actually necessary, I shall not repeat any of the ideas commonly found in text-books on diseases of the ear, but will proceed at once to discuss certain means of treatment from the standpoint of my own experience.

First.—For years I have studied ordinary syringes and now feel justified in condemning their ubiquitous use for cleansing the ears. Such syringes are excellent appliances in selected cases, but in the majority of cases are more than useless. To remove cerumen, some of the common syringes should be used if the tympanic membrane is not perforated. They will remove pus from the auditory canal but they will not remove it from the middle ear unless the aperture in the membrana tympani is very large. For removing mucus, muco-pus and membranous materials from either the canal or middle ear the ordinary ear syringes are of secondary importance. Forcing a stream of water in the auditory canal is not always a harmless procedure. Indeed many ears are seriously damaged by the too common use of syringes. I believe it is bad practice to direct parents, friends or patients to use aural syringes unless the physician gives such treatment his careful supervision. Cleanliness is next to godliness in medicine as well as religion. If by the ordinary use of the syringe we secure cleanliness my argument is useless, but experience teaches me that the syringe leaves a residue in the crevices and it is this residue that perpetuates the trouble.

Second.—I wish to state my opinion of the peroxide of hydrogen. I believe for aural trouble it is tremendously overestimated. For years I have used it more or less, chiefly less, and cannot recall a single case wherein it was a decided benefit. It makes a fine froth and that is about all it does in the ear, unless it irritates. Pus that it will break up and cast out is easily removed by other means. For mucus, muco-purulent and membranous materials it is useless. It is a fairly good hemostatic, but in my opinion, it should never be used in a routine manner for cleansing the ear.

Third.—When we criticise or object to means of treatment used by others we should, if possible, make known the means we think better. To cleanse the ear I always use head mirror and aural speculum and except in cases of impacted cerumen I use fine applicators that are easily bent, aural forceps, fine absorbent cotton, also air by inflation, and occasionally Anel's lachrymal syringe, to which I attach a long slender silver end piece. As I can bend this end piece I prefer it to the middle ear pipettes usually recommended. By bending the distal ends of my slender applicators to angles of from 100° to 120° I can reach almost any part of the middle ear through the ordinary perforation.

Fourth.—During the last fifteen years we have been too much inclined to use new remedies, especially those that are well advertised by the proprietors. No doubt each new drug has its virtues but I believe as a rule the old remedies are far better, and we as a profession should give more attention to the remedies of the past centuries and less to the much vaunted proprietary remedies of recent date. It is true we are more scientific than our fathers, but they were just as keen, practical observers and trained thinkers as we are. What they used empirically we may use scientifically with excellent results.

These reflections suggested to me the use of tincture of iodine for inflammatory diseases of the auditory canal, and for some years I have used it with marked success. It quickly aborts furuncles and banishes the chronic and subacute inflammatory troubles, if there is no discharge from the middle ear. It has a charming influence over many of those annoying cases of intense itching of the auditory canals. As a rule, twenty minutes after I apply the iodine I besmear the surface with some unguent.

Read before the MICHIGAN STATE MEDICAL SOCIETY, at the Kalamazoo meeting.

Another old remedy is compound tincture benzoin, which for many years was a well-known household remedy for various complaints. Friar's balsam, Wade's drops and Jesuits' drops are names given to it by the masses. It acts very kindly on the mucous membranes, lessening chronic discharges and chronic inflammatory actions. Some of the older aurists have inflated the ears with air charged with the vapor of this tincture, but I can find no literature that speaks of the direct application of compound tincture benzoin to the mucous membrane of the middle ear. I have used it for all kinds of middle ear diseases with discharges, and have had far better results from it than I have had from all other applications combined. Many of the middle ear diseases which are characterized by chronic discharges are made worse by water and the various remedies for which water is the vehicle.

All powders have serious drawbacks when used for middle ear troubles. Sometimes we credit them with quick cures but it is possible they simply completed the circumstances necessary for coincidences. I have yet to observe the first case wherein I believed a powder cured a middle ear disease.

Cleanliness makes most of the cures. Cleanliness means the removal of all secretions from the crevices of the middle ear. In my experience, compound tincture benzoin stands next to cleanliness. I apply it with a cotton swab after thoroughly cleansing the middle ear; all the surplus is mopped out. Mucus or pus precipitates the resins in compound tincture benzoin, giving it a whitish appearance; when I remove my swab I examine it carefully, and if I find any part of it whitened by the precipitation of the resins, I know the ear was not properly cleaned.

I shall not detain you by giving histories of cases wherein the syringe failed to clean the auditory canal or middle ear; wherein hydrogen peroxide did some harm and no good; wherein tincture iodine cured diseases of the auditory canal after I had exhausted the virtues of all other means; or wherein compound tincture benzoin has helped me cure old obstinate middle ear diseases; for without trouble or inconvenience you all can determine in your own practices, how much virtue there is in the suggestions I have made.

THE CAUSE AND PREVENTION OF OVERCROWDING IN THE PROFESSION.*

By GEORGE H. SHERMAN, M. D., Detroit, Michigan.

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Overcrowding in the medical profession has attracted the attention of physicians for some time, because it not only destroys the possibility of a reasonable remuneration for time and labor rendered, but creates a medical commercialism which is degrading to the profession and injurious to the public health. This overcrowding is brought about (1) by an unnecessary number of graduates from our medical colleges; (2) by depressed social conditions, which make it impossible for people to employ physicians as much as they would care to, and make the payment of professional services often impossible; (3) by less sickness, as a result of better sanitary conditions, preventive medicine and isolation of contagious diseases; and (4) by improved methods of treatment which shorten the course of disease.

No one regrets the want of professional employment as a result of better methods of treatment and improved health conditions, but the overcrowding which results from too many graduates, and from depressed social conditions, can and should be remedied for the good of the profession and the public alike. Laws requiring a high grade of preliminary education and a long course of medical study with rigid examinations is advocated by many as a means to prevent overcrowding. A high grade of medical and other education as a prerequisite to practicing medicine is certainly desirable, but that does not prevent overcrowding. In European countries, where a high grade of medical education prevails, the average practitioner fares even worse than here, having less to do and getting less for what he does. Professional fees in Europe are proverbially low, which in itself is a reliable indication of overcrowding. In Canada, a country which more nearly corresponds to ours in population and social conditions than any other, a high standard of medical education is required by law, but the average Canadian physician certainly fares no better than the average practitioner here. Laws have been passed in most states designed to make it more difficult to enter the profession, and many medical colleges have advanced their course of study to three or four years for the same purpose, but the number of graduates is steadily increasing, and this is particularly noticeable from colleges where a high standard of education is required.

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*Read before the Detroit Medical and Library Association.

DOCTOR LEARTUS CONNOR, in a paper read before the American Academy of Medicine at Denver (in which he claims to treat this subject scientifically), ascribes this rush of young people into the professions to our system of free public education from the primary grades up through the high school and into the university, thus creating an excessive number of young people who wish to become brain workers by casting their lots with the professions, or "live by their wits" by becoming agents, promotors, lobbyists, and the like. He would prevent this condition by limiting free public education at about the sixth grade, teach physical training in the public schools, and establish a system of training schools at public expense where the manual trades are taught, so our rising generation would take more kindly to muscular labor.

I wonder if it ever occurred to DOCTOR CONNOR that the manual trades are even more overcrowded than the professions; that the average mechanic does more work, receives less pay and is more insecure in earning a living for himself than the average professional man, and that by driving young people out of the professions into the trades he would make matters worse instead of better. All natural forces operate in the direction of least resistance, and this law applies here. As long as it is easier to earn a living at the practice of medicine than on the farm or at the bench, the sons of farmers and mechanics will continue to study medicine. That is what they are doing now.

Statistics show that labor in the workshop and on the farm is becoming less remunerative and more insecure from year to year. Parents, in their anxiety to provide for their children, often deprive themselves of all the comforts, and some of the necessities of life so their children may obtain a professional education, because they realize that manual labor is not remunerative. This natural tendency will always keep the professions filled up to a point where the professional man's opportunities will be but little better than those enjoyed by people following other callings.

The professional man must recognize the fact that he belongs to the industrial class; to a class wherein he must earn a living with his own efforts, and that competition always tends to bring all industrial people to a level, financially, with those employed in the great and leading industries, farming and mechanics. It is as impossible to prevent overcrowding in the medical profession or any other calling, as long as the great and leading industries of a nation are overcrowded, as it is to stop the course of a cyclone. The power of the great mass of the people is irresistible. It must be apparent, that professional overcrowding is caused by our social conditions which make living insecure and unprofitable to those employed in the leading industries, and to prevent professional overcrowding, social conditions must be so changed that labor will become more secure and more remunerative to those employed in the various industries.

What is the cause of this industrial depressien, and how can labor be made more secure and more remunerative to those employed in the leading industries? This necessarily leads us into considering economic questions. Man is endowed by his Creator with certain inalienable rights, and one of these is the right to earn a living with his own labor. To exercise this right he must have capital in the form of raw material and tools. He must have something to labor with.

If he owns this capital his natural right to earn a living cannot be interfered with; but, if he has no capital, this natural right is interfered with because it is as impossible to labor without capital as it is to eat without food. The man without capital has but one of two things left to do; either commit suicide (and a great many are doing so), or apply to some one who has more capital than he cares to use, and pay him a tribute for the privilege of using it. This tribute which is collected from the wealth user by the wealth owner, is known in the commercial world as interest on the capital invested, or profit.

It is this system of taking profit from the wealth user by the wealth owner which lies at the bottom of all our industrial ills. As long as this profit is collected by a large number of small capitalists who use it for their own comfort and pleasure, the evil effects of the profit system do not become so apparent; but, when the capitalists begin to save this profit so it can be applied as additional capital to gain more profit, then the destructive element of the profit system becomes fully developed. Wealth begins to aggregate in a few hands. The profit collected by the capitalists, as time goes on, becomes so enormous that they cannot exhaust it no matter how extravagantly they live, and wealth continues to be accumulated.

The producing classes, on the other hand, must surrender so much of their earnings to satisfy the demands of capital for profit that they can consume but a portion of the wealth they produce because no one can consume more than his income permits. This leads into a complicated condition of affairs. The capitalists collect more wealth than they can consume because they have but one body to feed, clothe, house and take care of, and the producers produce more wealth than they can consume because they cannot consume more wealth than their income permits. The inevitable result is that some of the products of labor are left over without a purchaser. This is what political stump speakers, for the want of better information, usually call overproduction. When this condition is reached, production must necessarily stop, because no one will produce more than he can dispose of. When production stops, labor becomes unemployed; competition for employment increases with a reduction in wages; capital organizes into trusts and combines to reduce expenses, which means more profit and less labor; the disparity between consumption and production continues to increase; capital concentrates more and more into the hands of a few; labor becomes more and more unemployed until, finally, the profit system becomes entirely inoperative by committing economic suicide. We have nearly reached that point now.

History shows that the profit system inevitably pauperizes the masses and establishes a capitalist class. When Babylon went down, two per cent. of the population owned all the wealth. When Egypt went down, two per cent. of the population owned ninety-seven per cent. of the wealth. When Persia went down, one per cent. of the people owned all the land. When Rome went down, eighteen hundred men owned the Empire.

Let us briefly note what this profit system has done to our country, "the land of the brave and the free." During the ten years between 1870 and 1880 there was accumulated over and above what was consumed in this country, $2,300,000,000 of wealth. Of this the capitalists received $2,220,000,000, and the producers received $80,000,000. The former received $2,000 per capita, and the latter received $2.00 per capita. Our public and private debt in 1870 was about $7,000,000,000. Now it has reached the enormous sum of $35,000,000,000. The interest collected on this sum means profit collected from the people.

This public and private indebtedness is not the only form of capital which demands profit. To this must be added rent on land, houses, and business property, profit on railway, telegraph, telephones, lighting plants, manufacturing and mercantile establishments, and other industries too numerous to mention. According to reliable statistics this gives us a grand total of $60,000,000,000 out of our $70,000,000,000 worth of wealth on which the wealth user or producer pays profit to the wealth owner. At an average rate of six per cent.

this amounts to the enormous sum of $3,600,000,000 annually. The amount of labor necessary to satisfy this demand for the use of capital is more than equal to the value of all our farm products, annually. This $3,600,000,000 if divided among our 70,000,000 of people, averaging five to a family, would equal $256.35 to each family. Labor statistics show that the average earnings of our laboring people and mechanics do not amount to $400 a year. Does it require a philosopher to see that this condition of affairs cannot continue much longer? At this rate, is there any wonder that our people are too poor to buy the products of their own labor, and, to get rid of the surplus, must look to foreign poverty-stricken countries for a market?

If this $3,600,000,000 could remain in the possession of those who produce it, what would they do with it? In all human probability they would buy things with it to satisfy their wants and desires. If the people could use this money to satisfy their desires, instead of having it piled up by capitalists as additional capital to gain more profit, the demand for all kinds of commodities would increase enormously; labor would be employed to supply this demand; an equilibrium between production and consumption would be established; the involuntarily idle man would vanish like the dew before the morning sun and overcrowding in industrial pursuits would be abolished forever.

If we wish to prevent overcrowding in the profession we must make labor more remunerative among those employed outside of the profession, by getting rid of the profit system. A coöperative system through the instrumentality of government should be substituted for our present profit system, in which the means of production and distribution would be operated in the interest of the whole people at cost. That this cooperative system cannot be substituted for the profit system at once, but must be gradually changed from the latter to the former is apparent.

How can this change be brought about?

(1) Abolish profit in the private ownership of land through the operation of the single tax, or make occupancy and legitimate use the only title to land.

(2) Abolish profit in the natural monopolies, such as railroads, telegraph, telephones, street railways, electrical plants, gas plants, and the like, by establishing public ownership and have them operated by government in the interest of the people at cost.

(3) Abolish profit in all industries that are in control of trusts and combines, by having them operated by the government at cost.

(4) The government should give employment to all who seek employment, by establishing governmental cooperative industries.

When the people become regularly employed at good wages, and money can no longer be invested for profit, borrowing money at interest will be a thing of the past, and thus another element of profit will be eliminated. As time goes on, private property should be transferred to public ownership, until finally the cooperative commonwealth will be established where there will be no room for paupers or millionaires.

Intelligent self-interest should prompt every professional man to use his talents and influence towards bringing about this change from the profit to the cooperative system. The question no longer is, What shall we do with the unemployed, the product of the profit system? but, What will the unemployed do with us? If the unemployed are not taken care of through public ownership of industries, the professions, as well as other pursuits, will continue to be overcrowded until life becomes not worth the living—a condition which generally ends in revolution and bloodshed. This deplorable condition can be averted, and a more noble, more just, more equitable civilization established, if the honest, intelligent people of our country will but use their talents and influence towards shaping our political movements in the direction of public ownership.

Will the members of the medical profession do their part in the onward march of civilization? They have done so in the past, and it is to be hoped that they will continue to do so in the future.

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THE EPIDEMIC AT SIBONEY.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

When I learned that yellow fever was raging at Siboney, having had a large experience in treating that and other tropical diseases, I felt it my duty to go to the front and do all in my power for the relief and comfort of the brave soldiers who were so courageously advancing the cause of liberty and so uncomplainingly enduring the hardships incident to such a campaign.

Early in July I was commissioned by the President, and immediately started for Cuba. A large number of physicians and nurses were sent at the same time. Our ship, the United States Cruiser Resolute, commanded by Captain Eaton, and laden with arms and munitions of war, besides hospital tents and tons of delicacies for the sick, left her pier at New York amidst the cheers of a large crowd that had assembled to see us off.

We were seven days on the voyage and owing to the danger of encountering Spanish torpedo boats were obliged to sail at night without light, making the trip somewhat perilous. We also stopped for target practice every day. However, we finally arrived at Santiago de Cuba, and immediately reported to General Shafter, who remarked that our coming was a "Godsend." He sent us to Siboney, about eight miles from Santiago. Our arrival there filled the hearts of the overworked physicians with joy, and the sick with courage when they saw our immense hospital tents, and food supplies appropriate for the sick in such a climate.

Major LeGarde was in command and a grander gentleman was never born; courteous, kind, considerate, indefatigable in his efforts to afford us every possible means of comforting the sick and relieving the terrible distress existing there; he endeared himself alike to soldiers, citizens and physicians.

The physicians already there were exhausted by overwork and the relief we brought no doubt saved many of their lives.

There was never any lack of medical supplies; we had food in abundance; the volunteers may have missed their bread and butter and observed an absence of mother's hot rolls, but their sorrow could not have been great or their regret lasting in the presence of canned fruits, splendidly prepared soups of all kinds, the best of nursing and the unremitting attention of the most devoted staff of physicians and surgeons ever detailed for such service.

We used but little meat in the hospitals, the refrigerated beef being tainted, due doubtless to the climate. While my experience with canned beef will not permit me to speak of it authoritatively, we were so rarely out of any essential article of food or medicine that little suffering resulted from that cause.

Shortly after the wounded were removed the epidemic commenced in earnest, the sick came in by the acre, and it was deplorable to see the excellent but broken down men, hopelessly discouraged by disease, who but a few hours before would have risked any danger at the command of their superiors.

Never was there a finer army assembled in the world, their intelligence, their generosity, their unselfishness was only excelled by their unparalleled bravery.

Prognostications by distinguished men had been made that our army would be ravaged by yellow fever, and I am certain that owing to the great care taken by doctors many cases that were at first regarded as yellow fever turned out to be thermic or malarial fevers. This mistake was not due to an absence of knowledge of the disease, but showed the great thoroughness and unusual precautions employed to prevent its spread, far more to be dreaded than Spanish bullets.

The presence of albumin in the urine was sufficient to create a suspicion, while a very high temperature was regarded as pathognomonic, and to such an extent had this course been pursued that it was reported in the United States that over three thousand people had yellow fever at Siboney, while I believe

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*Read before the Michigan State Medical Society, at the Kalamazoo meeting.

I am correct in stating that there was at no one time two hundred cases. The low death rate, which was not more than two per cent., will show that I have not underestimated the number of cases. It is proper for me to say here that the low death rate from all causes is most remarkable and can be accounted for only by those who know of or assisted in furnishing the excellent care each and every soldier received. To DOCTOR NANCREDE is due great credit for the excellent and skilled attendance to the wounded. His memory is enshrined in the heart of every man who had the good fortune to come under his care, and it is a fitting testimonial to his greatness to say that his name and the history of the Cuban campaign are indissolubly united.

The work performed by all entrusted with the care of the sick and wounded was of colossal character, and in no instance did I observe the slightest disposition on the part of any one to shirk a duty however distasteful. MAJOR LEGARDE fell ill and was sent home. He was succeeded by MAJOR GORGRIS, a gentleman of high attainments and most affable manner. He also became sick, in fact his life was despaired of and he, too, had to be sent home. I was the only physician who was not at some time on the sick list while there, and though on the point of collapsing I stuck it out at the expense of thirty-three pounds of flesh.

Nurses suffered equally with the rest from the epidemic and sometimes sixty per cent. were on the sick list at one time. I cannot speak too highly of the services rendered by the nurses. I found them at all times obedient and willing, sympathetic to a high degree.

The Twenty-fourth Infantry regiment, a colored regiment, was detailed to aid in caring for the sick. They were a splendid lot of men, and under the command of the gallant MAJOR MARKLEY, did good service as long as they kept well, but they were soon stricken down in large numbers and we were left without sufficient help. At my suggestion Cubans were employed to do police work around the hospitals, and Cuban women to do the washing. Their services were invaluable. We had also several Cuban doctors, very bright men, mostly educated in the United States or Europe. Having a knowledge of the Spanish language myself I became very intimate with them, and they gave me many pointers.

The department has been unjustly criticised for not returning the sick to their homes at an earlier date. It must be remembered that nearly all who were ill at first were supposed to have yellow fever, and GENERAL SHAFTER, believing this to be the case, decided that it would be highly imprudent to introduce this terrible disease into this country, but when convinced that it was not an epidemic of yellow fever he made the greatest possible haste in hurrying the sick to their homes in the north. The first transport took three hundred and seventy from our hospital, and a happier lot of sick men I never saw, some cried with joy. We regretted to hear that some suffered on the transport while en route. Others had relapses and some died at Montauk Point, others more fortunate reached their homes, and time and care have restored them to perfect health. None will ever forget their experience in Cuba, few will care to repeat it, but from my knowledge of the American soldier, gained by an association of the most intimate and confidential nature, I am prepared to say for them that the government has only to ask to obtain the services of the bravest and best men enrolled in any army at any time and under any circumstances.

The great majority of the cases we were called to treat were malarial in origin and readily yielded to quinine. The cases of sunstroke were more intractable, and required constant and unremitting care. The cool nights incident to the tropics were Godsends to those poor fellows; as the evening advanced and the day declined an observable improvement would take place. They would regain consciousness, be able to take nourishment, only to again relapse into unconsciousness when the sun returned. But the night gain was greater than the day's loss, and most of these cases recovered sufficiently to be sent home, their perfect recovery being somewhat in doubt, and when the pension rolls are published and revised, it will be found that the great majority who suffered sunstroke in Cuba are invalids, hopelessly and permanently.

Typhoid dysentery I believe caused the greatest number of deaths, and in this terrifically tropical climate was intractable to treatment, its course rapid and the end death.

The treatment of malarial fever was that usually adopted in the United States, and the typhoid cases usually received the same treatment that such cases would receive in the hospitals of New York city.

It was different with yellow fever. Everyone had his own ideas as regards the treatment of this disease, and it is safe to say that no two physicians agreed absolutely upon any specific course. Doctor Echeverin, an eminent Cuban physician, treated all cases with magnesia sulphate and water, allowing no food for several days. This course for a short time was practiced by other physicians, but soon abandoned for a more rational course, and I am sure a more scientific and satisfactory one. Salol proved very valuable, but we had no specific. When suppression of urine and black vomit occurred, I believe that no such case recovered. Good nursing proved the best remedy, in addition to a treatment conducted on general principles, and a careful diet. Depriving such patients of food was not a success. A rational and wise course, it seems to me, and one that was successful in my hands, was to treat the case according to circumstances and indications as they arose.

We have much to learn about yellow fever, and no doubt the brilliant workers in that field will soon be able to furnish us with facts and data that will place our knowledge on a firmer basis, and render this disease—a disease of squalor, poverty and vice—not only amenable to treatment, but thoroughly under our control.

We had eminent scientists in our camp investigating the character of this disease, notably Doctor Agromonte, of New York, especially detailed by General Sternberg. I have not yet learned the results of his investigations, or the conclusion arrived at, but the care with which they were conducted and the great intelligence of the gentlemen making these investigations promise to add much to our knowledge of the disease. Doctor Guterias was there for a short time, but I did not have the pleasure of meeting him.

I wish to say, in conclusion, that no army suffered so much in so brief a period of time, and with so low a death rate as the United States army in Cuba. No men ever bore suffering with less complaint than this same army. In the presence of such heroism the physicians and surgeons performed their work. There was no time or desire to discuss theories or practice. We were a devoted staff of brothers in the healing art, working alone or togetner as the case demanded, no jealousies, no desire for personal advancement, no motive, except to do our work well and glorify the prince of gentlemen—our commander, General Sternnberg.

URETERAL FISTULA.*

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On September 7, 1898, I removed two intraligamentary cysts of the ovaries, one of which I should estimate weighed about fifteen pounds. The operation consisted of shelling out each cyst, which I was able to do completely, there being no pedicle to either, then amputation of the redundant peritoneal covering, and finally suturing together of the two layers of this peritoneal covering.

The patient recovered well from the operation, and her condition was satisfactory for about a week, after which time she had pain in the region of the appendix and slight rise of temperature, reaching 100° and 101° in the evening. At the time of the operation I had noticed that the appendix was adherent to the large cyst, but as it was quite normal, with the exception that it was adherent at the extremity, I simply divided the adhesion and did not remove the appendix. My suspicion was therefore somewhat directed to this organ as a possible explanation of the pain and fever. After waiting a few days, the patient growing rather worse, I decided to open the abdomen a second time. This I did midway between the anterior superior spine of the ilium and the umbilicus. I found the intestines adherent to each other and to the surface of the ilium, but not to the anterior abdominal wall. I worked my finger down between the ilium and the intestine, carefully breaking down the adhesions. When I reached the sacrum there welled up into the wound, and from it, a quantity of colorless fluid. I contented myself with introducing a drainage tube and closing the wound. There was a profuse discharge of fluid, so much as to saturate a large dresssing made of absorbent gauze and cotton and an abdominal bandage, every two or three hours, so that it would need to be changed. After I was satisfied that there was no pus to be discharged, in the course of three or four days, I removed the glass drainage tube and allowed the fluid to discharge through the fistula which remained. In six weeks after the original operation, I allowed my patient to move about supported by a well-fitting abdominal bandage. The fluid continued to be entirely colorless. Every now and again there was a decided odor of urine to be detected in the room in which the patient was, so that I began to suspect that the fluid might be composed at least partly of urine. I collected some. This was easily done by simply holding a bottle to the fistula and allowing it to run in. On one occasion my patient collected an ounce and a half in half an hour. At this rate there would be discharged four and one-half pints in twenty-four hours. In spite of this great amount of discharge, patient improved in health and gained in weight. After the discharge had continued unabated for a month, it began to gradually diminish, and early in January—four months from the time of the original operation—the discharge ceased, and the fistula closed. Doctor Houghton examined the fluid a number of times to determine what it was. There proved to be urea present, but only one-fourth the amount contained in normal urine. The urine of patient was quite normal in composition and quantity, and she passed about one quart in twenty-four hours.

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*Read before the Detroit Medical and Library Association.

In attempting to make a diagnosis of the case, I have concluded that the most plausible explanation is that at the time of the original operation, in amputating the peritoneal envelope, the right ureter was wounded, but very slightly, allowing an escape of urine into the peritoneal cavity, and after the second opening of the abdomen this urine escaped externally. It was evident that the urine was not normal, however, and the most plausible explanation is that there was a condition of hydronephrosis caused by pressure of the tumor; the ureter, however, discharged into the bladder. This I satisfied myself of by cystoscopy. The obstruction must therefore have been caused by pressure of the tumor, which was relieved by its removal. The fluid did not have a straw color, but was entirely colorless.

The subject of ureteral fistula is an interesting one, and the literature is somewhat meager and comparatively recent. Almost all relates to uretero-vaginal or uretero-uterine fistula. The "Index Catalogue of the Library of the Surgeon General's Office" mentions nineteen articles on this subject by German, French, American and Dutch authors, the titles of which are as follows:

Freund (A. G.): "De Fistula uretero-uterina conspectu historico fistularum mulierum praemisso." 8°. *Vratislaviæ* (1860).

Salzmann (M): Ein Fall einer Harhleiter-Gebartmutterfistel." 8°. Tubingen, 1876.

Alquie: "Fistules uretero-vaginales." "Bull. Soc. de chir. de par., 1856–57, VII, 454–459."

Bandl (L): "Zur entstehung und Behandlung der Harhleiter-Scheidenfisteln." *Wien. med. Wochenschr.*, 1877, XXVII, 721, 749, 769.

Bang (B. L. F.): "Primaer Tuberkulose i Urogenitalorganerne; Kommunikation imellem Duodenum og den hojre Ureter." *Hosp.-Tid.*, Kjobenh., 1874, 2 R., I, 561–565.

Crede (B.): Nephrectomie wegen Ureter-Uterusfistel." *Arch. f. Gynaek.*, Berlin, 1881, XVII, 312-316.

Duclout (L): "Relation de trois cas de fistules vesico-vaginales et d'un cas de fistule uretero-uterine operees avec succes." *Gaz. med. de par.*, 1869, 3. s., XXIV, 43; 68; 111; 169.

Duplay: "Fistule uretero-vaginale; difficultes du diagnostic; operation; mort." "Bull. et mem. Soc, de chir. de Par.," 1880, n. s., vi, 93–97.

Freund (W. A.): "Kurze Geschichte der Urinfisteln des Weibes, nebst Beschreibung einer Harnleiter-Gebarmutterfistel." *Klin. Beitr. z. Gynaek.*, Breslau, 1862–5, i, 33; ii, 14.

Freund (W. A.) and Joseph (L.): "Ueber die Harnleiter-Gebarmutterfistel, nebst neuen Utersu chungen uber das normale Verhalten der Harnleiter im Weiblichen Becken." *Berl. klin. Wchnschr.*, 1869. vi, 504–509. Also, transl.; J. Gynaec. Soc. Boston, 1872, vi, 29–46.

Kurz (E.): "Fistel zwischen Uterus and Ureter." Memorabilien, Heilbr., 1876, XXI, 222-224.

Landau (L.): "Ueber Entstehung, Erkenntniss und Behandlung der Harnleiterscheidenfisteln." *Arch. f. Gynaek.*, Berlin, 1876, IX, 426.

Laugier: "Cas de fistule uretero-vaginale." *Gaz. d. hop.*, Paris, 1860, XXXIII, 273.

Muller: "Ueber aussere Harnleiterfisteln." *Arch. f. Gynaek.*, Berlin 1879–80, XV, 264.

Nicalodini (C.): "Ein Beitrag zum direkten Verschlusse der Scheiden-Ureterenfisteln." *Wien. med. Wchnschr.*, 1882, XXXII, 389–393.

Parvin (T.): "A Case of Uretero-Vaginal Fistula; Successful Operation. West, J. M., Indianapolis, 1867, ii, 603–609, 2 pl. Also, transl. (Abstract): Med. Cor.-Bl.d. wurttemb. arztl. Ver., Stuttgart, 1870, xl, 264; 267.

Simon (G.): "Ueber die Harnleiter-Scheidenfistel, nebst einigen Bemerkungen uber die Blasen-Harnleiter-Scheidenfistel und die Harnleiter-Gebarmutterfistel." (Three cases.) *Beitr. z. Geburtsk. u. Gynaek.*, Wurzburg, 1860, IV, 1–23. URINLEDER–FISTLER (Om). (Fistula of ureter). *Hosp.-Tid.*, Kjobenh., 1860, iii, 101.

Zweifel (P.): "Ein Fall von Ureteren-Uterus-fistel, geheilt durch die Exstir pation einer Niere." *Arch. f. Gynaek.*, Berlin, 1879–80, XV, 1–36. Also (Abstract): Stizungsb. d. phys.-med. Soc. zu Erlang., 1879, XI, 142.

Braun–Fernwald (R.): "Spontanheilung einer ureterfistel." *Centralblatt fur Gynaekol*, Leipzig, 1898 XXII, 19.

Among these there is only one relating to fistulæ through the abdominal walls—"Ueber Aeussere Hahnleiterfisteln:" Muller in *Archiv. fur Gynaekol.*, 1879–80, Volume XV, 264. The others all relate to fistulæ connecting the ureter with the vagina or uterus. The most available as well as most modern literature on the subject is to be found in "Kelly's Operative Gynecology." But this, too, relates largely to vaginal and uterine fistulæ, and goes into the treatment in a very graphic and lucid manner, making a very interesting chapter in this most attractive work.

Among the causes of this condition, mentioned by Kelly, are wounds, ulceration, congenital defects, and of these, wounds in the progress of vaginal and abdominal hysterectomies, are mentioned as the most common.

As far as treatment is concerned, the same author lists the following methods, which I give in his own words:

(1) "By buttonholing the bladder and making an artificial vesico-vaginal fistula close to the ureteral fistula, and after this has been healed, bridging over a channel between the two fistulous orifices by drawing together the sound vaginal tissues at the sides.

(2) "By making an artificial vesico-vaginal fistula close to the ureteral

fistula and then encircling both orifices in a ring of vaginal denudation, which is folded on itself so that the urine flows first from the ureter into a little vaginal pocket, and then into the bladder by way of the vesico-vaginal fistula.

(3) "By dissecting out the end of the ureter and, after splitting it to prevent contraction of the orifice, to turn the end into an opening made into the base of the bladder.

(4) "By making a big vesico-vaginal fistula in the vaginal vault near the ureteral fistula and closing the upper part of the vagina (partial colpocleisis).

(5) "When the ureter is not completely severed and the fistula simply involves its lateral wall, by closure of the fistula by means of denudation and suture of its margins.

(6) "By opening the abdomen to release the end of the ureter and turning it into the bladder (abdominal uretero-cystostomy).

(7) "By total occlusion of the vagina after making a large vesico-vaginal fistula (total colpocleisis).

(8) "Removal of the kidney corresponding to the fistulous ureter (nephrectomy)."

The simplest of these methods is to be selected which in the judgment of the operator will fit the particular case, and colpocleisis and nephrectomy are the last methods to be chosen.

The subject of utero-ureteral and uretero-vesical anastomosis is very interesting as depicted by Kelly. Uretero-cystostomy is performed when the ureter is divided so near the bladder that uretero-ureterostomy cannot be performed, or where there exists a ureteral fistula near the bladder. The abdomen is opened, an aperture is made in the bladder-wall, a pair of forceps is introduced through the urethra and bladder and made to emerge through the artificial aperture, the end of the ureter is seized and drawn into the aperture and fastened by sutures to the bladder-wall. Uretero-ureterostomy is not performed by an end-to-end anastomosis for the calibre of one portion is not large enough to admit the end of the other, but the end of the lower portion of the ureter is ligated, a longitudinal incision is made in the wall of this portion and the end of the upper portion is inserted into it and sutured in place.

The subject of spontaneous closure of a ureteral fistula does not appear frequently in the literature I have had access to. Von Braun-Fernwald, however, as we have mentioned above, has written an article in *Centralblatt fur Gynekologie*, Leipzig, 1898, XXII, 19, entitled "Spontanheilung einer Ureterfistel," and Kelly informs us that he has known of one instance. It doubtless will happen only in those cases in which there is a lateral wound without loss of tissue, for example, a longitudinal incision or merely a puncture. In such cases the opening may close spontaneously just as an opening in the intestine may.

PURPURA HEMORRHAGICA.*

By T. M. WILLIAMSON, M. D., C. M., Saginaw, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

About four years ago I was speedily summoned to see a young lady suffering with a violent chill which lasted over an hour, and which was followed by hemorrhages from nose, mouth, gums, kidneys, uterus and bladder. In a short time afterwards there was extensive extravasation of blood into the tissues. Ecchymoses came out simultaneously over nearly the whole of the cutaneous surface, and in places the cuticle was raised into a dark bleb by blood being poured out on the surface of the rete mucosum. The hemorrhages were profuse and also exhausting. There was an extreme nervous condition noticeable and the heart was very rapid, running about one hundred and thirty to the minute.

Upon inquiry I found that this condition was undoubtedly caused by sudden fright. It was about 11 P. M. when I was called, and it appears that this lady and her escort were returning from an evening's enjoyment to her home. As they were walking through the Polish district, through which they had to pass, four or five of the half breeds attacked her escort with clubs, well poles and such weapons as they could avail themselves of, they having mistaken this escort for some other person for whom they had been waiting. The assault, however, necessitated a vigorous defense upon the part of the escort, and the lady herself proved a warrior bold with a hat pin which she used very effectively upon the assailants. Although she and her escort escaped, the severe nerve strain and excitement ended in a chill very soon afterward, with result as above mentioned. The young lady was the picture of health and was of a sanguineous temperament.

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*Read before the Saginaw County Medical Society.

The existing troubles were treated with nerve sedatives, astringents, et cetera, and in a few hours I had controlled all bleeding, apparently, except from the gums, which lasted some three or four days. Local applications, astringents, et cetera, were applied to the gums with negative results. Nothing seemed to control the bleeding from the gums until the effects of large doses of tincture of perchloride of iron were administered at regular intervals, namely, twenty drops were diluted every three or four hours.

Having thus arrested all bleeding I gave tonics—iron in some form—watching carefully the action of liver, bowels and kidneys, all of which failed to perform their functions satisfactorily. I also noted any emotional disturbance caused a recurrence of epistaxis and bleeding from the gums. It was fully three weeks before I considered convalescence fully established, recurrences from time to time, stepping in to add to the gravity of the case. However, I finally succeeded in relieving the difficulty to such a degree as to give her perfect immunity from a recurrence for about one year, during which time she married and in a few months afterward miscarried. A return of the hemorrhages was in fashion and I again wrestled with the case and was apparently victorious, until about four months ago she gave birth to a boy, and I was in the same dilemma dealing with hemorrhages. Iron again relieved, and all was well until the prevailing epidemic attacked her, and a recurrence of bleeding at nose and gums appeared.

That an etiological relation existed between the sudden fright and the purpura seems apparent. It seems almost evident that extreme engorgement of blood-vessels and capillaries occurred, and owing to such dilatation, which of necessity followed such engorgement, rupture of capillaries and vessels was the result, ending in ecchymoses and hemorrhages. This to me seems a plausable explanation, though in many cases of idiopathic purpura it seems very difficult to determine to any degree of satisfaction the etiological and pathological relations.

The idea is generally conceded and advanced that idiopathic purpura arises from anomalies in the composition of the blood-vessels, but yet this seems to lack sufficient data to be accepted in all cases without a doubt.

Age is an important factor in prognosis. The older the patient the more unfavorable the prognosis. But in the fulminating variety seen in young children, as in the following case, prognosis must be guarded, for ofttimes extravasation of blood into the tissues of the brain will suddenly end the scene.

I remember two years ago a young lad three years old was showing signs of malaise anorexia and headache for two or three days. He was put to bed at night, and in the morning the mother found spots over the skin, and in many places extensive extravasation into the tissues. Even the eyelids were discolored and surrounded by broad black rings. Crops of round spots were to be found especially on the legs, varying in color according as the physiological changes in the blood.

Under treatment improvement was rapid and decisive, and the child gained in flesh, improved in color, and the prospects were apparently favorable for a complete recovery. However, one day some four months afterward he began playing vigorously with an older brother, and in a short time complained of headache and feeling tired. Following these prodromal symptoms came ecchymoses again, and the old train of symptoms aggravated more than in the previous attack. Vomiting also set in. Following shortly afterward came a comatose condition, and what appeared like cerebral apoplexy ended the scene.

This occurred in about forty-eight hours, and we are told that as a rule purpura ends in recovery, but so far as I have related in my experience I do not entirely concur in that opinion.

I have also noted one case of purpura which was directly attributable to the administration of iodide of potash. This patient had taken specific treatment for syphilis for some time, and not having taken a proper remission from such iodic medication purpura followed.

Another case in my experience happened in conjunction with pulmonary phthisis, and this complication is not uncommon in phthisis. It may also occur after any debilitating disease such as typhoid fever, anemia, chlorosis, dysmenorrhea, et cetera.

The morgue ofttimes affords some relief as to the pathological condition existing after death, and it has been generally found that ecchymoses exist on the lining membrane of stomach, intestines, kidneys, uterus and bladder. Evidences of extravasated blood are also found in pleura, pericardium arachnoid, the peritoneum, on the lungs and the medulla of bones. I saw one case wherein extravasation of blood into the left ventricle was the immediate cause of death.

This disease, considered in its entirety, seems to me to be worthy of grave consideration, and a very careful prognosis should be given. It thus appears from postmortem investigation that certain anomalies in the blood lead to a morbid condition of the walls of the capillaries, perhaps by impairing their nutrition, and the conditions enumerated in the above cases are consequent upon such pathological changes.

As to treatment, tincture of iron, in my experience, comes first. Ergot and other astringents recommended have given me negative results. Tonics with iron give me most satisfaction, while arsenic appears to have a valuable place in the treatment. Turpentine, though strongly advised by good authorities, has given me poor satisfaction. Absolute rest in bed, liquid nourishment, quiet and good hygienic surroundings, all have an important bearing upon its successful treatment.

THE ANATOMY AND PHYSIOLOGY OF THE ERECTOR SPINÆ MUSCLE, AND ITS BEARINGS ON SPINAL CURVATURES AND THEIR TREATMENT.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

The study of the erector spinæ muscle and its physiology is of vast importance. It is the most powerful muscle of the anatomy of man and covers the greatest extent of space. In the study of this muscle, one practically studies the whole of the back. Not only does the longissimus dorsi and ilio-costalis form the two divisions of this muscle, but the spinalis capitis et colli, complexus, accessorius, semispinalis dorsi, spinalis dorsi, transversalis colli and the spinalis colli bear such a close relation to the erector spinæ that in many cases the one emerges into the other.

The origin of the erector spinæ muscle is from the sacrum, lumbar vertebræ and crest of the ilium. It is broad, compact and fleshy to the last rib where it divides into the longissimus dorsi and the ilio-costalis.

The longissimus dorsi is inserted into the whole of the posterior surface of the lumbar vertebræ, the tubercles at the back of the articular processes and the middle of the lumbar fascia. In the dorsal region, this muscle is inserted into the tips of the transverse processes of all the dorsal vertebræ by long tendons, and into from seven to eleven of the lower ribs between their tubercles and angles. This muscle is continued upwards to the cranium and cervical portions of the backbone by virtue of the transversalis colli and trachelo-mastoid muscles.

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*Read before the Wayne County (Detroit) Medical Society.

The ilio-costalis or second division of this muscle is inserted, by six or seven flattened tendons, into the angles of the six or seven lower ribs. Frequently this muscle is inserted into the angles of all the ribs. The ilio-costalis muscle is continued by tendons forming the musculus accessorius and cervicalis ascendens, which are inserted into the angles of the six upper ribs and into the tubercles of the transverse processes of the cervical vertebræ.

The spinalis dorsi muscles connect the upper lumbar and dorsal vertebræ together with tendons which blend with the longissimus dorsi muscle.

The spinalis colli is a muscle entirely absent in one case out of every five, or nearly so. It connects the cervical regions to the axis and its tendons blend with the longissimus dorsi muscle.

The complexus is a muscle springing from the tubercles of the transverse processes of the first three dorsal and seven last cervical vertebræ to be inserted into the occipital bone. Its tendons blend with those of the biventer cervicis and transversalis colli, which as we remember blend with the longissimus dorsi. The biventer cervicis is by many authors described as belonging to the complexus muscle. The trachelo-mastoid muscle springs from the third, fourth, fifth and sixth dorsal vertebræ and is inserted into the mastoid process of the temporal bone.

The nerve supply of the erector spinalis and its associate muscles are the lumbar, dorsal and cervical nerves, from their posterior division, which by communicating branches anastomose with visceral sympathetic nerves.

The blood supply is from the lumbars and sacra-media, branches of the abdominal aorta; profundi cervicis, a branch of the internal mammary artery; muscular branches from the vertebral and dorsal branches from the intercostal arteries which are branches of the thoracic aorta.

One thing which we wish to bear in mind is that no large nerve or arterial trunks are to be found anywhere on the back. The large trunks are found almost in any region of the anatomy, but on the back only small branches are found.

The muscles that antagonize the erector spinæ are the belly muscles, the three flexors of the thigh and muscles found in the anterior regions of the neck.

The functions of these muscles are to hold the body erect; raise the body from a position of flexion to that of extension. It is the muscle that pulls the body erect in lifting heavy weights from the ground, and does so by taking the pelvis and lumbar regions as a point of fixation and pulling on the ribs, upper vertebræ and head. This function we wish to bear in mind. It is a muscle subject to that surgical disease lumbago. It is the muscle that pulls the vertebræ out of position in trouble involving the vertebra and its cartilages. It is often aided in these conditions by the latissimus dorsi, one of whose functions is to aid the erector spinæ in maintaining the erect position, and pulling the body from a bent to an erect position.

Any diseases involving bones or cartilages of the spinal column in time produce deformities of the back, the study of which we will take up this evening.

Kyphosis or Potts' disease of the spine is a trouble that has infested man in all climates and at all ages. The studies of skeletons whose bodies have moldered away ages ago show in some of them inflammatory disease of the spine. It was a disease known to the leeches of the old Alexandrine schools of medicine. Hippocrates knew of spinal troubles. Galen found them among the Romans. PARE treated it at Paris, but its thorough study and description was left to that old master, P. POTTS, of Dublin. Since his day many learned treatises have been written on this unfortunate disease.

Potts' disease of the spine may be divided into two classes. One in which the spinal trouble belongs only to the cartilages; the other in which the vertebræ and cartilages are both involved.

In order that we may follow out our line of study we will view, grossly, the vertebra. We find it has a body whose borders look anteriorly; a spinous process that looks posteriorly; lamina which connect the body to the spinous process; transverse processes that extend laterly. We find articulating facets for ribs and tubercles for the attachment of ligaments and muscles. We find upon examining the body that it has an epiphysis and epiphyseal lines. We find, also, the vertebræ have pedicles. We pick up a cartilage and find it a disc of fibro-cartilagenous substance. It is of sizes ranging from a half to an inch and a half in breadth. We find them enclosed in foldings of a synovial sac. We find the nutrition of the vertebræ is from intercostal branches turning backwards into the intervertebral spaces and through nutrient canals, and from lumbar branches which supply lumbar vertebræ. We find the cartilages receiving, as far as has ever been discovered, no arterial vessels, and think it receives its nutrition by imbibition from the synovial sac. We find strong ligaments hold these bones one to the other, and as a joint we find them having rotation, extension, flexion, and lateral motions to limited extent. They are flexed by the action of the abdominal and flexor muscles of the thigh, and from the position of flexion they are carried to extension by the erector spinæ muscles. The rotation is carried out by virtue of the spinalis colli and interspinalis muscles. The lateral motion is performed by the latissimus dorsi and iliocostalis portion of the erector spinæ muscle. Please hold these functions in mind.

In that portion of Potts' disease that involves the cartilages only, anterior angular curvature is most common. As the cartilages waste away by disease involving them, the bodies of the vertebræ rest upon their epiphyseal surfaces, rub one upon another, producing ulceration and often considerable destruction of the bodies. The erector spinæ muscle, instead of pulling the bodies of the vertebræ posteriorly as it does when destruction of the bodies is so great as to bevel the borders of the bodies or, destroying them altogether, pulls the vertebræ above and below more forcibly downward and outward, leaving an anterior angular curvature. This is a trouble often found in adult life and advanced age. Seldom more than two or three cartilages are involved at a time. Time generally ankyloses the joints, but sometimes this condition proves fatal.

In that part of Pott's disease in which the vertebræ and cartilages are both involved together, the cartilages are destroyed, the bodies of the vertebræ are wasted by ulceration and their bodies rock one on another, or become destroyed. The action of the erector spinæ muscle in pulling on the vertebræ above and below and upon the ribs, pull the backbone posteriorly, giving posterior angular curvature. In this part of Pott's disease we find children suffering more often than adults, and some authors claim it a disease peculiar to childhood. The disease generally begins as an osteo-myelitis of the epiphysis involving the bone in an ostitis and periostitis and near the epiphyseal line of the bodies of the vertebræ. It then by infection destroys the synovial sac and cartilages, giving what is often termed collapsing of the bodies of the vertebræ. Sometimes these bodies are ulcerated by large aneurisms of the aorta. In diseases of the vertebræ usually but two or three vertebræ are involved, but in a specimen of backbone belonging to DOCTOR WYMAN's bone museum at the Michigan College of Medicine and Surgery, nearly all the vertebræ are ankylosed, from inflammatory conditions involving the vertebræ.

In angular curvatures bear in mind that the erector spinæ muscles are rigid, a condition called by JOHN HILTON "a muscular splint."

Lateral curvatures are seldom primary diseases, but are due to conditions depending upon diseases involving muscles, as in paralysis, and to conditions involving a lung, as in emphysema, pyothorax, hydrothorax or tuberculosis of a lung; or by contractions of one or more muscles caused by trauma. Paralysis of the right side will produce lateral curvature of the left side; because the antagonizing muscles no longer having a resisting force the muscles of the left side will pull the backbone to that side. Paralysis of the left side will produce lateral curvature of the right side for the same reason. Emphysema, pyothorax, or any disease of the lungs or chest cavity in which the disease or an operation has produced collapse of the lung, will produce lateral curvature to the side in which it exists, because in full expansion of the lungs the ribs are pulled out by virtue of the serratus magnus, stimulated by the external respiratory nerve of BELL, a branch of the brachial plexus; by the pectoral muscles, stimulated by the anterior thoracic nerve, a branch of the brachial plexus. That stimulus is given it through anastomosing branches of the phrenic, pneumogastric and thoracic sympathetic nerves supplying the lungs. Again, the ribs are pulled together by the action of the intercostal muscles, stimulated by intercostal nerves, branches of anterior portions of the cervical and dorsal nerves. In conditions in which a lung ceases to expand by reason of its collapsed condition, the stimulus carried to the serratus magnus and other respiratory muscles communicated to the nerves supplying them from irritation of nerves at the seat of the disease, throws these muscles into a state of rigidity or muscular splint, and pulls the ribs and backbone to the side in which the disease exists, or rather the fact that the ribs cease to act on the side diseased because of the rigidity of muscles inclines the backbone to that side.

Surgical and traumatic diseases of the latissimus dorsi or injury or disease of the long thoracic and scapular nerve that supplies it may throw that muscle into a state of rigidity or paralyze it and cause powerful contraction of its fellow on the other side, producing a peculiar condition known as lateral-rotation of the spinal column. In all these conditions the fasciæ play an important part in lateral curvatures.

Another condition that has a bearing on angular and somewhat on lateral curvatures is the weight of the column and head above the seat of disease. But the part played by these conditions I believe to be greatly overestimated.

Hip-joint diseases, in which the parts have healed at the expense of the head of the femur, or those cases in which the disease has forced the head of the femur to luxation and destroyed the acetabulum, apparently shortening the limb on the diseased side, tilts the pelvis and throws the backbone out of the normal line. To compensate and give the erect posture, the lower part of the erector spinæ on the opposite side exerts considerable force, while that on the side in which the disease exists is relaxed, which in time become considerably atrophied from nonuse, and the pulling force of the ilio-costalis and longissimus dorsi pull the opposite side to the position of erection giving lateral lumbar-dorsal curvature which is very marked. Lateral curvature is sometimes produced in children and young adults working at benches and desks, in factories or schools. In these conditions long relaxation of the muscles that pull the vertebræ laterally, gives antagonizing muscles double force, producing lateral curvature.

The further etiology and pathology of these conditions, I will leave for your discussion.

Treatment.—The proper treatment of these defects is based upon conditions producing antagonization of the erector spinæ and other muscles involved, holding the weight of the spine and head up off from the seat of the disease, and immobilizing the inflamed bones, cartilages and joints. For these purposes, the last end of the last century and this century has seen thrown onto the market for the treatment of spinal deformities many devices and machines that all work along the lines described above. Perhaps no one answers the general purposes so well as Sayre's plaster of Paris jackets. All these contrivances are useful and in a large majority of cases answer nicely. But in angular curvatures we have a condition, even when taken early, for which the treatment applied is not entirely satisfactory. For in many of these cases the erector spinæ is so rigid that it cannot be entirely overcome to produce a back free from deformity. Surgeons think they have done enough if they can arrest the disease, have bony ankylosis take place and cultivate to its fullest degree the compensatory curves. In lateral curvatures, especially lateral-rotatory curvature, myotomies of the latissimus dorsi muscle and fascia often aid in bringing the spine to a normal curve and then the artificial supports, with other treatment, will give very satisfactory results. In other cases the suspension of the body by the head will pull the spine straight and then supports will hold it there until such time that the natural conditions will operate to hold the parts normally. In angular curvature; I wish tonight to advocate complete myotomies of the erector spinæ muscle, just below the seat of the disease, dividing all muscles and fascia, subcutaneously or by the open method and then drawing angles out of the spine by apparatus used to straighten spines, holding the spine straight by a plaster of Paris jacket, reaching from the neck and shoulders under the armpits to the top of the hips, and immobilizing the backbone until ankylosis has removed the necessity for antagonizing the erector spinæ muscle and holding up off from the seat of disease the weight of the parts above.

MATRIMONY.*

By N. E. ARONSTAM, M. D., Detroit, Michigan.

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It is not my aim to consider and analyze the philosophical and social aspects of marriage, but I have attempted to gather the *cons* of unrestricted matrimony from a medical point of view, believing that the latter have an overwhelming importance over the former. War, pestilence and famine have time and time again decimated the ranks of communities, but nonsanitary matrimonial alliances have resulted in much greater disaster.

Why is the present generation so weak, constantly afflicted and affected with a legion of ailments of which physicians were ignorant in the past centuries? Why has many a name been added to the index of nervous diseases, of which the physician did not know anything fifty or one hundred years ago? Some, no doubt, will venture to solve this important question by saying that modern investigation in the anatomy and physiology of the nervous system, and a better knowledge of pathology in general, have opened a new array of facts, which were obscured by a veil of ignorance in the past. Is that a true scientific answer, based upon a thorough understanding? for words, though euphonious and resonantic, are still only words. Are we not aware that aside from the many discoveries made by our modern improvements in the above enumerated branches, new diseases have actually arisen in the course of time, afflictions which we can only attribute to the modes and methods of our present life; or to speak in a more constricted sense, the results of injudicious matrimonial alliances?

Let us trace cases of tuberculosis, both in children and adults, and see how many are acquired and how many are congenital? The percentage of congenital cases is not as low as has been supposed heretofore. Although denied by many, we cannot absolutely ignore the supposition of congenital tuberculosis. Then again, are we absolutely sure that all these nervous disorders to which the present generation is so prone; all these hysterias, neurasthenias, conditions of nervousness, nervous prostrations, et cetera, are not due to an indulgence in Baccho from the parental side? Again, are we certain that the legion of cutaneous diseases in both sexes and at different periods of life is not actually the result of a luetic tendency transmitted by the parents? In short, I venture to say that if we should look into the matter very closely we would be able to find that the majority of diseases are simply the result of an unhealthy propagation of species, in which the tendency toward the various morbid conditions has been transmitted.

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*Read before the Wayne County (Detroit) Medical Society.

The state protects the property of her citizens, retards nonmoral invasions, prevents the ingression of the latter in the community, spends millions of money for educational purposes, maintains health boards for the sanitary and hygienic welfare of the people, but does not protect the innocent off-spring from wrongs committed by the parental side. The term "wrongs" is rather too mild; "crime" would be the appropriate word. No occasion would be offered to the state to protect the property of her citizens; but few tendencies would exist in the community; the state would not be required to spend so much energy and money if she would take under her wings, in her absolute power, the great aim of ages and human kind, namely, to produce a healthy race, a stainless generation. And she can accomplish this if she desires. Let her take the entire question of matrimony, in its total aspect, under her control. Let the state look upon marriage just the same as upon the militia, in which it is required that the individual who enters the army shall be capable of performing the duties and burdens necessary for a member of such body. Two individuals, the one male, the other female, enter the military school of life with prospects of a battle, however slight and insignificant it may be; and considering the propagation of the race, which is the highest and ultimate aim of this alliance, it would seem that these individuals ought to be fully capable of enduring the struggles and sufferings of that battle, which we call life; and not only that, but they should be in such a state of health as will enable them to propagate a healthy and stainless race.

What, then, is the remedy? How would you prevent youth from overflowing? How would you forbid voluntary matrimonial relations to take place? How would you ameliorate the present evil, with due respect to the passions of youth? I will partly answer with Osler, who admirably treats a part of this subject in his article on "Syphilis" in his excellent "Text-book on the Practice of Medicine." "Two measures are available," he says, "the one personal, the other administrative. Personal purity is the prophylaxis which we as physicians are especially bound to advocate. Continence may be a hard condition (to some harder than to others), but it can be borne, and it is our duty to urge this lesson upon young and old, who seek our advice in matters sexual. Certainly it is better, as Saint Paul says, to marry than to burn, but if the former is not feasible, there are other altars than those of Venus upon which a young man may light fires. He may practice at least two of the five means by which, as the physician Roudibilus counselled Panurge, carnal conspiscence may be cooled and quelled—hard work of body and hard work of mind. Idleness is the mother of leechery; and a young man will find that absorption in any pursuit will do much to cool passion, which, though natural and proper, cannot in the exigencies of our civilization always obtain natural and proper gratification. The second measure is rigid and systematic regulation of prostitution. The state accepts the responsibility of guarding citizens against small-pox and cholera, but in dealing with syphilis the problem has been too complex, and has hitherto baffled solution. On the one hand inspection, segregation and regulation are difficult, if not impossible to carry out; on the other hand public sentiment, in Anglo-Saxon communities at least, is as yet bitterly opposed to this plan, while this feeling, though unreasonable, as I think, is entitled to consideration, and choice lies between two evils—licensing, even imperfectly carried out, or widespread disease and misery. If the offender bore the cross alone, I would say forbear; but the physician behind the scenes knows that in countless instances, syphilis has wrought havoc among innocent mothers and helpless infants, often entailing lifelong suffering. It is for them he advocates protective measures."

To recapitulate: Three measures are available, of which two were mentioned—personal purity and regulation of prostitution; the third, the most important of all, as I think, is the full and absolute power of the state in affairs matrimonial. Let each and every individual, who wishes to enter the "Temple of Hymen," be it male or female, undergo a rigid physical examination. Permanent questions should be established with regard to a possible existence of a family history of lues and tuberculosis. The nervous system should be thoroughly tested. The mental conditions of the individual should be subjected to a trial. A scrupulous examination of the genital organs in particular should be instituted, as well as of the thoracic organs. If a person furnishes negative results, as regards the prescribed standard of the above requirements, he or she should be rejected from the matrimonial eligibles, either permanently or temporarily, according as the case shows itself amenable to treatment.

> " Deunn wo das Shenge mit dem Zarten,
> Wo Starkes sich und Mildes paarten,
> Da giebt es einen guten Klang.
> Drum priufe, wer sich ewig bendet,
> Ob Starkes sich zun Starken findet!
> Der Wahn is kurg die Reu ist lang.
>
> —Schiller's Geocke.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, JANUARY 16, 1899.

THE PRESIDENT, CHARLES DOUGLAS, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR GEORGE H. SHERMAN read a paper entitled "The Cause and Prevention of Overcrowding in the Profession." (See page 362.)

DOCTOR EMIL AMBERG: The Doctor could be congratulated if he had solved a problem on which the human race has worked since history began. If I am not mistaken, HERBERT SPENCER says that we do not know when we construct a new machine exactly how it will work until it is tried; it is still more difficult to say how the machine of human society will run. What we can do is to mend every point. We can change a bad point and make it good. Excuse me for lowering the level of the discussion, and make it a little more practical. Such papers as the one read tonight, although very commendable in themselves, when read to a society of physicians are useful only to a certain extent. There is not one member in a medical society of the standard of the Detroit Medical and Library Association who is not aware of all the facts leading to the state of affairs existing in Michigan. The overcrowding of the medical profession in Michigan is more a symptom than a disease, but I think the doctor made a wrong diagnosis. There is no doubt that the conditions existing are shameful. As long as the citizens of Michigan stand them we might perhaps say that we can stand them, too. Professional men might perhaps be excused from taking part in the fight necessary for an improvement; citizens of the state are not excused under any cicumstances, even if they are physicians. On the contrary physicians as citizens are obliged to instruct the men who are entrusted with the welfare of the community in the points in question. If the men who are elected by the people did not lend their hand for an improvement I am inclined to think that they did not know how bad the state of affairs in Michigan is. I cannot think that any man with common sense could refuse to do his duty in this respect, especially when he only has to follow the example of his colleagues in other states of the union. However, if the absurdity should occur that those men will not do their duty, then it is time to open the eyes of the people so that those men are replaced by others who will do their duty. I am of the opinion that the medical profession in Michigan, when thoroughly aroused, is powerful enough to influence every citizen with common sense.

STATED MEETING, APRIL 17, 1899.

THE PRESIDENT, CHARLES DOUGLAS, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR WILLIS S. ANDERSON read a paper entitled "Study of some Conditions that Lead to Fibroid Changes." (See page 352.)

DOCTOR C. W. HITCHCOCK: I have nothing special to offer on the subject. It is one that is interesting to me. Ten years ago this spring I read, at the annual meeting of the State Medical Society, a paper along this line, giving therein an account of my father's case, which was rather obscure, and I attributed his death largely to the development of an arterio-capillary fibrosis. DACOSTA, MEIGS, and GULL and SUTTON are among those who have written most early on this subject. The question has been one as to how far we may go in that class of diseases which we obscurely attempt to classify under the general head of Bright's disease; and by the way such a name is a reproach to the medical profession in its indefiniteness. What fibrous change is embraced by the class of diseases which have their development more prominently along other than written lines. It is probable that even in those cases that develop before death a well-marked nephritis, that the nephritis is secondary to the fibrosis, changes having been going on and which began in the smaller vessels. This very question would involve the condition to which the author of the paper referred to as to whether the uric acid or to toxins shall be ascribed the larger responsibility as the cause of this disease. If we hold to the latter theory, that they are caused by absorption from the rectum or bowel as a result of defective sewerage, or if we look to the kidneys for defective elimination there, it points us to the importance of securing efficient elimination from these organs. We should understand the solemn responsibility that rests upon every one of us of keeping ourselves as young as possible by strict and constant attention to the matter of elimination, a subject which in the hustle and bustle of these busy times receives from most all of us but too little consideration. There are some other symptoms to which the writer did not refer. He has referred to most of the classical symptoms, and I want to emphasize the dyspnea to which he calls attention. I recall in my own father's case the most distressing attacks of dyspnea during the last two or three months of his illness. Again, another symptom which is often prominent, and which seems to us almost inexplicable, is the precordial pain. At another time he spoke of cold in his throat, and also of an acute pain on both sides of the chest and over the region of the heart.

DOCTOR CHARLES DOUGLAS: This subject is a most interesting one to every physician. I am very much interested in following up the remarks of the essayist and must say that he went a liltle too fast for me at some points. The point that DOCTOR HITCHCOCK has taken up with regard to the toxemic origin of these diseases and how far uric acid is a factor in their production—whether it is the one or the other—does not impress me as exactly requiring that a line be drawn between the two. My understanding of the uric acid disturbance in the body is simply that this product does not exist as a separate substance, that it does not appear in the urine as pure uric acid. It appears as a combination. We know very well that in young children, when we have the elimination of uric acid we have evidences of it. The napkin of the young child shows uric acid in the stain, resembling blood, and draws the mother's attention thereto, forcing her to ask for an explanation. If it is merely in combination with the salts of ammonia and others that the uric acid is eliminated then the uric acid is merely an evidence of the toxemia. I do not think that we have the uric acid as such to contend with as simply acid in the body; nor is uric acid itself such a terribly fatal or dangerous thing to have in the blood, because the evidences of experimental work on that point show that the accumulation to produce any poisonous influence should amount to the whole quantity that would be secreted for sixteen hours before the patient would show any toxemic effects. I think the Doctor, in drawing his line with regard to the condition being due to the defective sewerage, does not settle the whole question exactly as it occurs in many of our patients. In these patients it becomes a question whether the defective sewerage is a cause or becomes a result of it. I believe we should look upon the blood current as a vehicle for conveying to the tissues healthy material and conveying out of the body unsuitable material. Rather than wait until the absorption should occur from the rectum or colon I fancy we should commence higher up. The great majority is continually producing toxins through their method of eating or through their imperfect powers of assimilation. I think you will find in any given number of ten or twenty men whom you might select under unfavorable dietetic conditions, that some of them will be stricken with some derangement. We are having continual contamination of the blood current throughout the entire length of the alimentary canal. I believe many of the fatal nephritic cases in the adult are due to the abusive dietary to which the child has been subjected during the first two years of its life. I have never seen any writing that has been clear or satisfactory as to the true cause of fibrosis. There is nothing that appeals to me as to the cause of fibrosis as this constant contamination of the fluid which is circulating to all parts of the body and carrying nutrition to all these parts. We notice a change in children that are being fed upon milk from the cows which are now receiving dry food. As soon as these cows are turned out to the green grass the children will immediately have green stools.

Doctor A. E. Gurd: I should like to ask the last speaker in regard to milk infecting the children. I do not think the green food entirely causes this. We have the warm weather to contend with. In winter it is almost impossible to sour milk, but in warm weather it sours almost at once. I think the development of bacterial changes has a great deal to do with green stools in children.

Doctor D. L. Parker: The question of these conditions stands out very prominently and physicians meet with these cases very early in their practice. As to the cause, investigations will have to be made in the future. Some points stand out prominently.. This is particularly so in the tendency to contraction of the arteries and arterioles. You see it with pain in different parts of the body, dyspnea following exertion, and dyspepsia following diminution of the blood supply to the stomach. If we have a toxic condition resulting from absorption of the poisonous materials in the blood and contraction of the blood-vessels we know that digitalis is a mechanical diuretic. We should give potassium iodide, nitroglycerine and amyl nitrite in our treatment. There is one other point in the regulation of the diet of these patients. Many of our patients use large quantities of alcohol. When it is difficult to stop the use of it they should take it very much diluted.

Doctor Anderson: The discussion seems to have largely centered upon the cause of fibrosis. I should feel like looking at it from several points of view. For instance, we take as an example a person who has lived rightly and dies of old age simply, and if we examine that person's arteries we will find that they will be thickened and have undergone this change. So in the kidney we will find the connective tissue increased, and so on in the different organs. Now, the question arises, What are the causes of this connective tissue increase as age advances? We might take other cases wherein death takes place in the prime of life, and if we examine these in the same manner we distinguish changes much like those that have taken place in the elderly person. If it be true that toxins are the cause of this fibroid change, that only removes it one step further back, and we have to ask what is the cause of the toxins. The trouble with this theory is that it seems so very indefinite. In regard to the treatment with iodide of potassium and digitalis they are about the most valuable remedies we have. I should feel that nitroglycerine in this condition would not perhaps be safe to use continuously. Iodide of potassium would be much better because it could be continued for a longer time.

STATED MEETING, MARCH 6, 1899.

THE PRESIDENT, *pro tempore*, FRITZ MAASS, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR ERNEST T. TAPPEY read a paper entitled "Ureteral Fistula." (See page 368.)

DOCTOR LONGYEAR: I have been much pleased with DOCTOR TAPPEY's paper. It is a very good resumé of the subject and the case that he narrates of his own is very interesting. I do not feel that I am capable of making any extended remarks on this subject because I have had no experience in these cases, never having had a case of ureteral fistula to report. I had the pleasure of seeing the Doctor's case, and it seems to me that there is no other explanation of the condition of affairs that presented itself than that there was an ureteral fistula. The amount of fluid that came away was enormous, and yet it did not look, as the Doctor says, like urine. It was perfectly colorless, and the odor, as it came fresh from the wound, was not especially characteristic of urine, but the inference was that it came from the ureter somewhere along its course. I think the case is undoubtedly one of spontaneous healing of the ureter. The surgery of this subject is certainly of the finest and requires more manual dexterity and skill in its successful working than almost any other branch in the domain of surgery, and I think DOCTOR KELLY has had more experience than any man living in this subject as far as we can learn from the literature. I think there is a field for this class of work in the future. These cases are so rare that they are apt to be overlooked.

DOCTOR HOUGHTON: The case has been extremely interesting to me from a clinical standpoint. The first specimen the Doctor brought to me was very small and by taking special precautions I was able to make a thorough qualitative examination for urea. There was about one-fourth of the normal quantity of urea present. I requested DOCTOR TAPPEY to procure a larger amount of urine, and by making another examination I found the amount of urea was about the same as that obtained on the first examination. and also that I could get a large number of crystals of nitrate of urea. It would have been possible to have cleared up the case if the Doctor had succeeded in getting some of the urine from the ureteral opening. At the time it seemed to me that it might possibly be a case of hydronephrosis by pressure of a tumor on the ureter. In most instances we would have found at least the presence of small amounts of albumin if there was a peritoneal exudate. Taking it all in all it seems an interesting case because it could not be explained fully, but DOCTOR TAPPEY's diagnosis is probably the correct one.

DOCTOR MAASS: Was the color of the urine the same as the color of the fluid from the abdomen? It was very surprising that the ureter should discharge such an amount of fluid without any albumin. Was there any heart disease?

DOCTOR AMBERG: It is proved that the urine did not produce any infection of the peritoneal cavity.

DOCTOR TAPPEY: There was no heart disease. The patient recovered perfectly, has gained in weight and is now in splendid health. The question whether this fluid might be all from the kidney and not partly from the peritoneal surface was taken into consideration. It seemed in one aspect more probable that it all came from the the kidneys because of its color and particularly from the fact that there was no albumin present. The fluid was absolutely colorless. I saw the urine being ejected from the right ureter into the bladder simultaneously with the urine being discharged per fistula. There is one thing I would like to speak of which I found extremely interesting in connection with the examination of the bladder and the ureteral orifices. I attempted to catheterize the ureters which I did not succeed in doing. I did, however, succeed in seeing the ureteral orifices. My patient assumed the knee-chest position. KELLY speaks of the ease with which one may detect the little jet of urine escaping from the ureteral orifices, but I found it quite difficult in that there was a most tumultuous disturbance when the fluid came into the bladder because of its forming bubbles with the air.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, MARCH 23, 1899.

THE PRESIDENT, ROBERT H. HONNER, M. D., IN THE CHAIR.
REPORTED BY WALTER J. CREE, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR N. E. ARONSTAM read a paper entitled "Matrimony." (See page 377.)

DOCTOR E. W. JENKS: I do not think that matrimony can be regulated by law. There are more illegitimate children born in the country than in the city, that is, in proportion to the population. I doubt whether any law could be enacted; if so, it would be repealed. The best way in this matter is to bring up children in the right manner and teach them the evils of improper marriage. The spread of venereal disease should be prevented in some way. The advocation of social purity is good. Men are born with passions and unless trained to suppress them when young, are apt to run astray. It is a hard matter to legislate against the weaknesses of human nature.' I say educate and not legislate.

DOCTOR MAIRE: I agree with the previous speaker. There is now a bill before the legislature to prevent people from marrying who are affected with syphilis, gleet or gonorrhea. Passion can be regulated by education. The laws of heredity play an important part in some cases. In some families when the members are brought up under the most favorable conditions, some one will break out and this can only be charged to heredity. I believe no man who has syphilis or gleet has a right to marry.

DOCTOR MILLIGAN: The state should regulate marriage. The family is the foundation of the state and if the family is pure the state is pure. When love comes into play it is pretty hard to regulate marriage, for a man or woman will marry even if the object of their affections is tuberculous. Vice should be regulated by good training.

DOCTOR GUNSOLUS: I can hardly see how marriage can be regulated by the state. Certainly syphilitics should be prevented from marrying as there is no doubt that syphilis causes more suffering and misery than any other disease. I do not agree with DOCTOR JENKS that there are more illegitimate children born in the country than in the city. I think statistics will say otherwise.

DOCTOR MULHERON: We can all endorse the paper but when it comes to the practical application of these views we are at sea. People should be educated up to laws of this sort and must be before legislation is any good. I believe the world is getting better. The majority of marriages are felicitous, notwithstanding the number of divorces.

Doctor Amberg: Instead of discussing whether the human race is degenerating or not, it is my opinion that the medical profession should show the people the damage which such diseases as syphilis, tuberculosis, et cetera, can do. We should do it because nobody else can do it. A great sociological question could be treated in discussing the paper presented tonight.

TRANSLATIONS.

FRENCH LITERATURE.

Translated by E. H. McCALLUM, Lansing, Michigan.
CLERK IN THE OFFICE OF THE MICHIGAN STATE BOARD OF HEALTH.

ON THE PATHOGENY OF THE GASTRO-INTESTINAL INFECTIONS OF YOUNG CHILDREN.

By P. NOBÉCOURT, Paris, France.
ANCIEN INTERNE-LAUREAT DES HOPITAUX DE PARIS; CHIEF DU LABORATOIRE DE L'HOSPICE DES ENFANTS-ASSISTES.

[*La Semaine Medicale*, Paris, May 17, 1899, Pages 169-173.]

Since the advent of bacteriological studies the pathology of the affections of the digestive tube in young children has been renewed. The role played by the microorganisms in the production of those diseases has been made plain. The unprecise ideas which prevailed until recent years on the pathogeny of these affections have given place to a more exact knowledge of digestive infection. The factors which formerly were considered as playing the principal role—alimentary surcharge, retention of milk in casein, butter, sugar—while retaining an undeniable importance, have been relegated to second place; no longer intervene as determinative, but as predisposing causes. Under their influence the secretions are modified, abnormal fermentations are established, the contents of the intestines are transformed into a medium culture eminently favorable to the increase of saprophytic bacteria, which might become pathogenic determining endogenous diarrheas (Escherich[1]), or, in a wider acceptation, the infections of endogenous origin (Thiercelin[2]). In the same sense, general maladies such as measles, la grippe, tuberculosis, syphilis or hereditary blemishes, which determine either lesions or functional troubles of the organs, the liver, pancreas, et cetera. On the other hand, in children submitted to artificial nursing the introduction into the digestive tracts of milk charged with virulent microbes might occasion ectogenous diarrheas (Escherich), infections of ectogenous origin.

From the knowledge of all these facts is born a rational method of therapeutics of which the essential principles—suppression of food, hydric diet, evacuation of the intestines by purgatives and washings—have for object the greatest realization of digestive asepsis; from more intimate knowledge of the second group of infections, has resulted the introduction into practice of sterilized milk. The novel idea of gastro-intestinal infections has therefore been fruitful.

Still, notwithstanding the progress realized, many points in the comprehension of these morbid processes are still obscure. If one discards the general notion, penetrates the intimacy of the phenomena, considers precisely the facts, he will quickly perceive how great is the obscurity which still exists on this subject. The researches which daily succeed each other are proof that numerous questions remain to be solved. Even the knowledge which we have of the morbid agents of these infections is imperfect. Bacteriological researches have taught us that they are not due to special germs, that they are the work of the common bacteria of the digestive tube; but they have not made the statements sufficiently precise to be placed among the laboratory verifications and the infectious states which the clinic studies.

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[1] Escherich Zur Pathogense der backteriellen Verdauungstörungen im Säuglingsalter. (*Centr. Bl. f. Bakteriol. Nov.*, 1899, p. 554.)

[2] E. Thiercelin de l'infection gastro-intestinale chez l'enfant nouveaune; pathogénie et traitment. (*Thèse de Paris*, 1894.)

Among the causes which render the solution of this bacteriological problem so difficult is the variety of the intestinal microbian flora in the normal as well as in the pathological state. As **Escherich** has shown, from the first hours which follow birth the microbes appear in the intestines, entering there at the same time by the mouth and anus. In the meconium, before all alimentation, W. **Schild**[1] has been able to isolate seven kinds. In proportion as the child grows this microbian flora becomes enriched; side by side with the usual bacteria (**Escherich**), the bacterium lactis aerogenes and the bacterium coli commune, may exist a whole series of optional microorganisms, the bacillus subtilis, the staphylococcus, the streptococcus, the proteus, et eetera. **Szegö**[2] has described ten kinds of them in the intestine of the healthy nursling. Evidently, all these germs do not coexist in the same intestine. Often, in normal stools, only a few are found, and coli bacilli may appear in culture nearly pure (**Escherich**). But the fact that they may be met with outside of all pathological state, has singularly restrained the value of their verification in the course of gastro-intestinal infections.

In these infections we meet with the same microbes, most often the coli bacilli, the streptococci, more or less exceptionally that entitled the green chromogen bacillus, which is nothing but a special variety of coli bacillus (**Lesage**), the bacillus mesentericus or potato bacillus (variety of the bacillus subtilis), the proteus, the bacillus pyocyaneus, et cetera. In certain cases one kind predominates, as, for example, the coli bacilli in some acute infections (**Lesage**), the streptococci in diverse forms of enteritis (**Escherich**). But most often the microbian flora is varied. Predominance of one kind, kinds more or less numerous may then present themselves for study, question a normal or pathologic intestine. One perceives by this the difficulty there is in establishing the part which devolves on each of them, or in their association in the pathogeny of morbid troubles. To elucidate the facts it is necessary to divide their study, and only to take them up successively.

Among the germs which forcibly attract our attention in considering gastro-intestinal infections in the first rank are the coli bacilli, normal hosts of the intestine. Ever since their debut, perhaps, a too important role in the pathogeny of these infections has been attributed to them. In regard to them diverse questions present themselves. Does a criterion exist which permits of affirming their pathogenic role? Are certain forms of infections, particularly the acute infections of summer, attributable to the coli bacilli, the work of the common coli bacilli or to a particular race of this group of bacteria? What role in the pathogeny of gastro-intestinal infections does the association of the coli bacilli with other germs of the digestive tract play?

I.

The role which is incumbent on the coli bacillus in the pathogeny of gastro-intestinal infections of young children is still disputed. While in France, during a long time, its importance was admitted, without contest, in Germany caution prevailed. Perhaps the list of infections in which it can intervene has been made too comprehensive. As it is found in all bacteriological examinations of the intestine, its simple presence there is far from being a sufficient verification. In like measure that the data of general pathology make it easy to conceive the possibility for this saprophytic agent to acquire pathogenic properties, the necessity of a criterion is imposed which permits the establishment of its role in each particular case.

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[1] W. Schild. Das Auftreten von Bakterien im Darminhalte Neugeborener von der ersten Nahrungsaufnahme. *Zeitsch. f. Hyg. u. Infektionskr.*, XIX., 1. p. 113.)

[2] Szego. Die Darmmikroben der Saüglinge und Kinder. (*Arcn. f. Kinderheilk*, XXII., 1-2.)

But to find this criterion is not an easy thing. The coli bacilli which one meets with in the intestine, both in the normal and the pathologic state, present very variable characteristics of morphology and culture. Their only common properties are that they are discolored by the Gram method and do not liquefy gelatine. In all other respects they differ from one sample to another, whether one studies their mobility, their faculty of causing the sugars to ferment and to produce indol. Alongside of the common coli bacillus may be found the five types of paracoli bacilli, admitted by **Gilbert**[1]. But none of these types are peculiar to an infectious state for which its presence would be characteristic.

More important, perhaps, are the deductions drawn from the abundance of the coli bacilli in the fecal matters and from their virulence. Usually, examination of the fecal matters of a healthy child, after coloration by gentian violet, show the presence of variable bacilliary forms more or less elongated and more or less thick, which are for the most part discolored by the Gram process. After the application of this process still a certain number of the bacilli, the short diplococci and streptococci, remain colored. These verifications can be made readily if the process of double coloration proposed by **Escherich**[2] is employed. Cultures on gelatine plates or in tubes, in successive dilutions, confirm the first examination and permits the isolation of a greater or less number of kinds of bacteria, coli bacilli, of which two varieties often exist, streptococci, et cetera. It may be conceived then that the unique existence on the plates of the bacilli discolored by the Gram, and of a pure culture of coli bacilli on gelose may be cited in favor of a pathogenic action on their part. It is above all in the acute infections that this fact is observed, and **Lesage**[3] in particular has insisted on its importance. Nevertheless, the value of this verification is far from being absolute. On one hand it can be made in healthy children, especially those which are nourished at the breast, as **Escherich** saw on his first researches. On the other hand, under diverse influences, the coli bacillus may predominate in the intestine and, indeed, exist there in a state of purity; **Sanarelli**[4] observed it in guinea pigs into which he injected a culture of bacillus or of the typhic toxin; **Ramond**[5], after the coli bacilliary or streptococcic toxin injection. With **Mr. Charrin** we have recently made the same experiment with two guinea pigs subjected to diet and treated by subcutaneous injections of saline solutions. Moreover, the criterion admitted, the role of the coli bacillus would be singularly restricted; in the greater part of the cases of gastro-intestinal infection the coli bacilli coexist with other bacteria. This fact is the rule in the chronic infections; it is frequent in acute infections to judge of it by the statistics of **Greene–Cumston**[6], who in thirteen cases has found the coli bacillus only three times in fourteen pure cultures, **Lesage**[7], who has met with it only two hundred and ninety-seven times in seven hundred and seventy examinations. Also, without denying all value to this criterion, it must not be accorded too much importance.

Similar criticisms may be applied to the character drawn from the virulence of the coli bacilli for animals. According to LESAGE and MACAIGNE[1] the coli bacilli of the normal intestine of newborn infants are not virulent for the rabbit and guinea pig, in dose of one cubic centimeter of culture, in bouillon, of forty-eight hours, inoculated under the skin. In the gastro-intestinal infections, on the contrary, they become virulent for the same animals, and according to LESAGE[2] the best criterion of the infection is the existence in the stools of a coli bacillus which, inoculated in dose of two-thirds of a cubic centimeter of culture, in bouillon, of twenty-four hours, in the peritoneum, determines the death of a guinea pig of a weight less than two hundred grammes. But there are cases wherein this virulence exists outside of any infectious state. MACAIGNE has verified it three times in thirteen examinations. In the stools of four healthy nurslings, we ourselves in eight examinations have isolated virulent coli bacilli in dose of one cubic centimeter of culture in bouillon, inoculated under the skin of guinea pigs of three hundred grammes. It should be noted here that our observations were made in January, February, and March, so that the influence of the hot season cannot, as MACAIGNE proposes, be invoked to explain this virulence. On the other hand we know how many causes might modify this virulence of the intestinal coli bacilli: the alimentation, the modifications of the secretions of the digestive glands, general maladies, et cetera. VALAGUSSA[3] found in regard to cats that while a lacteal diet, and in a less degree, a meat diet diminishes the virulence of the coli bacilli of the stools, the vegetable diet augmented it. SANARELLI and RAMOND, in their experiments above mentioned, noted at the same time of the pullulation of the coli bacilli the augmentation of their virulence. It is the same in typhoid fever. The coexistence of the two characteristics (coli bacilli in pure culture and virulents) no doubt has more value than each one of them taken separately. Every time that a state of gastro-intestinal infection exists and there are only coli bacilli in the stools, it is logical to consider them as the cause of that state. But, by itself, this criterion has no absolute value. In an infant, observed in the practice of PROFESSOR HUTINEL, seen at two different times, in normal stools, the existence of the pure culture of coli bacilli, which administered to a guinea pig in a half cubic centimeter dose of culture, in bouillon, and inoculated under the skin, caused its death.

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[1] Gilbert. De la coli bacillose. (*Semaine Médicale*, 1895, p. 1-3.)

[2] Escherich. Uber Streptokokkenenteritis im Säuglingsalter. (*Jahrbuch. f. Kinderheilk.*, 1899, XLIX, 2-3, p. 137.) L'auteur parait attacher une certaine importance a l'existence constatée un certain nombre de fois, dans les selles, de coli bacillus lestes colorés en bleu, a côté de coli bacillus colorés en rouge, comme ils le sens d'ordinaire.

[3] Lesage. Enterites a bacterium coli. (Bull. et mem de la Soc. med. des hop., janiver 1892.

[4] Sanarelli. Etudes sur les fievre typhoide experimentale. (*Ann. de l'Inst. Pasteur*, avril et juin 1894, p. 193 et 353.)

[5] Ramond. Fievre typhoide experimentale. (*Thèse de Paris*, 1898.)

[6] Greene-Cumston. Contribution a l'etude de la virulence du bacterium coli dans le diarrhées des enfants. (*Thèse de Genève*, 1894.)

[7] Lesage. De la gastro-enterite aigue des nourissons. (*Bull. et mem. de la Soc. med. das hoopitaux, 18 Nov., 1898, et Semaine Médicale*, 1898, p. 472.)

Study of the toxic power of these virulent coli bacilli may perhaps furnish important characteristics to establish their pathogenic role. But researches undertaken up to the present are too incomplete to admit of conclusions being drawn from them.

As to the presence of the coli bacilli in the blood and the organs at the autopsy, it signifies very little, for it is known that the coli bacilli spread in the viscera during the last hours of life. It is then a question of a dying or postmortem invasion. Moreover, in the greater part of the cases the gastro-intestinal infections determine phenomena of toxemia rather than phenomena of generalized infection.

To these processes of examination, until recently, in sole use to establish the pathogenic role of a microbe is added the study of the agglutination of that microbe by the serum of the patient submitted to its action. Opposed to GRUBER, who made a reaction of immunity of agglutination, WIDAL has shown that it appeared from the period of infection in full evolution of the malady and that its confirmation in the course of typhoid fever constitutes after a fashion the signature of the infection and permits the affirmation of its existence. In view of the characteristics of resemblance between the typhic bacillus and the coli bacilli, it was logical to utilize this method for the study of the coli bacilliary infections.

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[1] Macaigne. Etude sur le bacterium coli commune; son role dans la pathologie (*Thèse de Paris*, 1892.)

[2] Lesage. Infections et intoxications digestives chez le nourrisson, in Traité des maladies de l'enfrance de Grancher, Comby et Marfan, T., XX, p. 566, Paris, 1897.

[3] Valagussa. Experimentalle Untersuchungen uber die Virulenz des Bacterium coli commune (*Centr.-Bl. f. Bakteriol.*, 24 nov, 1898, p. 750.)

The first statements of **Widal** and **Sicard** on this subject, confirmed by those of Bosc and **Vedel**, **Achard** and **Bensaude**, W. **Johnston** and **Taggart** were not conclusive. In that epoch the agglutinative power of serums was not yet measured and as all the human serums agglutinate the coli bacilli (**Widal**, P. **Courmont**) in the variable proportions for each sample of serum and of microbe, it was difficult to say where the pathologic agglutination commenced. By applying the method of mensurations we have with **Mr. Widal**[1], in a case of suppurative thyroiditis, operated by **Mr. Chaput**, shown that the paracoli bacillus isolated from the pus was agglutinated by the serum of the patient, in the proportion of one to one thousand; then we have assisted progressively at the diminution of this agglutinative power to one to four hundred, and one to one hundred and fifty, and one to one hundred and twenty, twenty-nine hours after the operation. In this case the agglutination was well in accord with the infectious processes and constituted, so to speak, its signature. The coli bacilliary infection could, consequently, give rise to a characteristic agglutination.

The first application of these data or principles to the study of the gastro-intestinal infections of young children was made by **Mr. Lesage**[2]. Here are the conclusions to which he came relative to the special point with which we are occupied: "The bacterium coli coming from a child in full period of acuteness of the malady is agglutinated by the serum of the same child (fifty cases; forty positives, ten negatives). The reaction if not constant is nevertheless very frequent. Of ten negative cases eight times the bacterium coli was virulent, two times the virulence did not exist. It may have been that in the negative cases the reaction had not yet appeared, for if we examine in detail the forty positive cases we see that thirteen times the agglutination was not apparent at a first examination and appeared the following days; the duration of the reaction is short, notwithstanding the persistence of the digestive state, for, if the malady passes to the chronic state, the agglutination disappears after a few days, the same if a child affected with chronic enteritis, with athrepsia (in twenty-four out of twenty-five times), the reaction is wanting. Nevertheless, sometimes it may appear if there is an intestinal pressure, but it would be of very short duration and very feeble (six times in twenty-four cases). The normal bacterium coli, at that age, is not agglutinated by the serum of sick children; normal serum does not agglutinate the infectious coli bacterium, and normal serum does not agglutinate the normal coli bacterium."

In the main, according to **Mr. Lesage**, in the acute gastro-intestinal infections with virulent coli bacilli in the stools, the agglutination exists very frequently; it is, on the contrary, wanting most often in the chronic infections, but this author does not state positively if virulent coli bacilli exist equally in these cases. From what we know about agglutination in general we find in it an important element in favor of the coli bacilliary nature of these acute infections. But, as **Mr. Widal**[3] said relative to the communication of **Mr. Lesage**, these researches did not take account of the mensuration of the attested agglutinative power, an element necessary, as we have shown. As to the microbes which the normal serums agglutinate very often, the existence alone of the agglutination does not suffice to characterize a pathological reaction, that which is pathognomonic, is the rate of this agglutination. Also in the course of the researches followed in the practice of **Professor Hutinel**, in view of making this question of the agglutination of the coli bacilli in the gastro-intestinal infections by the serums of the sick more precise we have taken care to conform to this rule. Following the method of the mensurations proposed by

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[1] F. Widal et P. Nobecourt. Séroréaction dans une infection a paracolibacille (*Semaine Médicale*, 1897, p. 285-287.)

[2] Lesage. Des énterites infantiles, du sérodiagnostic et des races de bacterium coli. (*Compt. rendus de la Soc. de biol.*. Oct., 1897, et *Semaine Medicale*, 1897, p. 383.)

[3] Widal. (*Semaine Médicale*, 1897, p. 383.)

Widal and Sicard for the sero-diagnosis of typhoid fever, our researches have given the following results[1]:

In the cases wherein the stools contained virulent coli bacilli in dose of one cubic centimeter of culture in bouillon of twenty-four hours, inoculated under the skin of guinea pigs of three hundred grammes, we have found one time in thirteen, a light agglutination of one per ten. The patient was an hereditary syphilitic, the stools of whom were normal.

In the other patients suffering from acute infections with fever more or less intense, diarrhea more or less abundant or subacute infections of variable duration, the serums have never presented the agglutinative property notwithstanding our having made repeated examinations at various times, in some instances every day.

In the cases wherein the coli bacilli of the stools were not virulent, five times out of seven, we have found an agglutination more or less marked, one per ten, one per twenty, one per thirty, one per fifty. This agglutination was variable in the same patient, and not in accord with the intensity of the fever and the intestinal troubles. The subject of which the serum agglutinated most was an athrepsic suspected of hereditary syphilis, who neither presented diarrhea nor fever. We estimate, then, that the agglutination in the course of gastro-intestinal infections in the young children, is a very inconstant phenomenon; that it is not more marked in the acute than in the subacute or chronic infections; that there is no relation between this phenomenon and the presence of virulent coli bacilli in the stools, seeing that in the cases wherein it was most evident the coli bacilli were not virulent. This agglutination has no more value than that which is obtained with the normal serums. From its study, one can make no deductions in favor of the role of tne coli bacilli in these infections.

To explain the rarity of this agglutination, we may first invoke the fact that the acute gastro-intestinal infections have often a rapid march, whether they evolve towards cure or terminate in death. It is understood that in these cases, the organism is not actively or sufficiently long enough impressed to react by the production of the agglutinative substance. In typhoid fever the agglutination does not appear until some days after the debut of the malady, and already, during the period of incubation, the organism had sustained the influence of the infectious processus. Still, this explanation is not valid in all cases, seeing that the sero-reaction does not show itself, even when the malady is prolonged. Perhaps this rarity of the agglutination depends on the fact that the pathogenic agent remains localized in the intestine and does not invade the organs, as the Eberth bacillus does in typhoid fever? We have seen in our experiences how difficult it is to provoke experimental agglutination to the aid of the coli bacilliary toxins, as Widal has shown it for the typhic toxin; now, it is the toxins alone which can act in such case. It is the same, however, when one has to do with the coli bacilli, with the living cultures (Achard[2]). As to the hypothesis of Mr. Lesage, who invokes the coexistence of other microbes in the intestine, it is in contradiction to the facts observed up to the present. Widal and Sicard[3] have shown in effect that, in inoculating the same animal the typhic bacillus, the choleric vibrion, coli bacilli, et cetera, a serum is obtained which agglutinates these different microbes. With Mr. Widal[4] we have obtained, by simultaneous inoculations of choleric vibrions and aquatic vibrions, serums which agglutinate these different samples at different rates. Therefore the mixture of different microbes does not prevent agglutination. Moreover, in the cases wherein our serums agglutinated the coli bacilli, we found, in the stools, alongside of these bacteria, other micro-organisms. It was thus that in those of our patients of which the serum agglutinated the bacterium coli at one to fifty, there were in the intestine coli bacilli and streptococci.

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[1] P. Nobecourt. De la non-specificité des colibacilles des infections gastro-intestinales des jeunes enfants. (*Compt. rendus de la Soc. de biol.*, 26 Nov., 1898, et *Semaine Médicale*, 1898, p. 486)

[2] Achard in Bensuade: Le phénomène de l' agglutionation des microbes et ses applications a la pathologie (le sérodiagnostic.) (*Thèse de Paris*, 1897.)

[3] Widal et Sicard. Etude sur le sérodiagnostic et sur la réaction agglutinante chez typhiques (*Ann. de l' Inst., Pasteur*, mai, 1897.)

[4] Widal. Les associations microbiennes et les infections mixtes. (*Semaine Médicale*, 1898, p. 167-168.)

During the time that we were making our researches, **Escherich**[1] and his pupil **Pfaundler**[2] arrived at conclusions in accord with ours. These authors found only three times agglutination, by the serum of children presenting symptoms of dysenteric colitis, from coli bacilli slightly virulent, isolated from the stools of these patients. However, **Mr. Lesage**[3] agrees with our opinion. "The agglutination for the bacterium coli of enteritis is," says he, "variable, inconstant, and cannot serve in the diagnosis of the malady, as in typhoid fever. The agglutination seems to me an accessory fact which has nothing to do with the other questions of the infection and intoxication. I will say further, that agglutination is often very feeble at the one-thirty, at the one-fifty, at the one one-hundred, that the normal blood can equally possess this property to such a point that I have often observed the normal blood agglutinate the bacterium coli at one two-hundred, one three-hundred."

To sum up, none of the actual bacteriological methods admit of affirmation of the role of the coli bacilli in the gastro-intestinal infections of young children[4].

[TO BE CONTINUED.]

EDITORIAL ARTICLES.

GONORRHEA AS WELL AS SYPHILIS.

The medical advisers of our antecedents are possibly partly responsible for the very common impression that an attack of gonorrheal urethritis is a small matter, no worse than a cold and easily curable in two or three weeks with no bad after effects. Few medical men of any experience have not heard such remarks nonchalantly made as though there were not an element of doubt or suspicion in them. This thought has a firm hold upon the people and yet we all know it dangerously embodies an untruth. The persistent discharge of an incurable gleet, the recrudescence of a latent infection of the prostate, Cowper's glands or seminal vesicles and all grades of salpingian disease sadly remind us of the truly unfortunate condition of our patients. The effects upon the life and home are alike discouraging. As **Doctor Robbins** remarked* before the State Society, concerning marriage following urethral disease, "that event has ushered in discomfort, distress even, to the extent of practically rendering one unable to cope with the duties of life. Life has lost its charm; there is no home; sexual life is repulsive or impossible; children do not come to brighten the family life; love itself is fast ebbing away". With such a prospect before a gonorrheic patient how can we lightly regard the disease or cause its possible consequences to sink into insignificance in the minds of those who depend upon us for light and counsel? The comparison is odious and yet syphilis itself may be said to be less damnable in the sum total of its results. There is practically less frequent infection of wives by their husbands with syphilis than with gonorrhea. Syphilitics are generally curable after faithful and prolonged treatment and are usually willing to follow out their physicians' directions. They are well informed as to the serious nature of their affliction and for that reason doubtless their patience outlives their cure. They should be made to realize the same hard facts with regard to gonorrhea. If ever they do it must be through us. Shall we neglect our duty?

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[1] Escherich. (*Loc. Cit.*)

[2] Pfaundler. Ueber serodiagnostische Fragen in der Pädiatrie. (*Much. med. Wochensch.*, 25 Oct. 1898, p. 1391.)

[3] Lesage. (*Bull. et Mem. de la Soc. med. des hôp.*, 18 Nov, 1898, p. 804.)

[4] R. Fischl, dans un travail tout récent (*Rev. des mal. de l'enfance*, mia, 1899), va meme plus loin: "Mais, dit-il, ce que nous devons, a mon avis, rejeter d'une facon absolue c'est l'importance du colibacilli dans la pathogénie de l'infection digestive, soutenue par Lesage et ses éleves." Nous pensons cependant que c'est là une opinion trop absolute.

* *Journal of the American Medical Association*, Volume XXXII, Number XXII.

ANNOTATIONS.

SHOULD DOCTORS ADVERTISE?

WERE we to consult the commercial spirit that permeates and dominates every phase of our industrial life we doubt not this query would receive a ready affirmative. Among trustowners, bondholders, magnates of every kind, tradespeople, politicians and all sorts and conditions of men greedy after gain, the existence of a class that not only neglects but persistently spurns the more usual methods to insure success is incongruous and well nigh unthinkable. It would appear impossible that an industrial class could flourish or even maintain its wonted rank without the pretence and assurance that characterizes business life. For these reasons it is not strange that the greater but not better informed part of the laity and a few nominal adherents of the medical profession should regard the quack unconcernedly or with complacency. Be it known, however, that notwithstanding these things the vast majority of the medical fraternity have voluntarily subscribed to and live the ethical principles of the Golden Rule, which are more than the tenets of business life. Our motto is not "Do others as they shall do you," nor has it ever been ascribed to us as a class. Not that we are better than other men or different from them do we forfeit the profit that might be snatched from an humbug-loving people, but the confidence of the public and the success of our labors according to the promises we extend, upon which the permanency of our industry depends, render an obedience to the ethics of our profession inevitable. It may be that in the economy of nature this compensation has been set off against some of the weaknesses of the human kind. The conformity of these principles to the doctrines of The Great Physician would indicate a more than human origin and a lasting existence. Whatever be their effect upon us or our incomes their institution is an act of grace to our patients and the better they know it the sooner will charlatanism and fraud depart from our midst.

THE NEW WOMAN: A CRITICISM.

THE social and intellectual uplifting of woman is a theme for pardonable enthusiasm in every mother's son. It is the grandest and noblest achievement recorded in secular history. The sweep of the pendulum is already wide and it still swings. Industrial life is now the scene of action and woman feels at home in every branch of business. The important question now is, What will become of the home? We are generally much interested and highly edified by the champions of women's rights and admire their vigorous spirit, but when a disposition is shown to belittle the home and take from it the sweetness and contentment, without which there is nothing left, we feel as though the pendulum had already swung too far. In an article, interesting and forceful, but with more of assumption than logic, DOCTOR MARY JORDAN FINLEY uses these words:* "The home is woman's sphere, we are told; but with all the varied activities that once centered there taken out of it, except the last steps in the preparation of food and the promotion of cleanliness, it becomes too narrow, monotonous, and aimless, it affords too little of either mental stimulus or muscular activity." We acknowledge to have met women to whom such language might apply, but, happily, we believe they are few, and their complaints represent chiefly themselves. They prove indifferent mothers or childless and loveless wives, and, having learned little or nothing of real homemaking and housekeeping, they and their perhaps wandering households appease their dyspeptic stomachs with the diet of boarding houses and bakeshops. How else but narrow, monotonous and unsatisfying could the homes of such women be? Heaven would forbid, we doubt not, their ever engaging to perform that which they neither desire nor are capable of doing—making a home.

CONTEMPORARY.

HOW TO COMBAT POPULAR IGNORANCE OF MEDICAL MATTERS.

[PEDIATRICS.]

DOCTOR A. B. CROSBY, a successful teacher of a generation ago, used to begin his course of lectures on surgery by a description of the effects of a hot potato placed under a horse's tail. He said that the animal invariably clapped that member firmly against the heated object, thereby making matters much worse for itself, and then dashed off madly at full speed. The doctor would then ask the nearest student how he would go about to relieve the horse, and would affect to be greatly delighted by the degree of intelligence implied by the answer, "I would remove the potato." DOCTOR CROSBY meant to convey in an allegorical manner the almost total lack of appreciation of the relation of cause and effect possessed by mankind, and especially in cases wherein medical matters are concerned. The natural man is inclined to ascribe his physical misfortunes to such incidents as meeting a cross-eyed individual or walking under a ladder. Practitioners in Turkey and Russia frequently mention instances of that degree of childish credulity in their patients, but it is not necessary to go so far from home, or to descend so deeply in the social scale for examples. Our modern faith healers affect to believe that disease, or rather its simulacrum, arises from the malicious or envious thoughts of others. The medical man often finds himself wondering as to whether man will ever become sufficiently cultivated to distinguish between matters of faith and reason in medical subjects. From analogy it would appear that we do not begin at a sufficiently early age to give children fundamental training in such matters, and that we do not set about the task in the proper way. It is a question, however, whether the child-mind, being half savage, could be capable of proper conceptions of the relations of cause and effect. It appears to be certain that school instruction in physiology is almost wholly unproductive of benefit. The pupils study a poor, garbled, expurgated book and any pretence at systematically teaching a subject like physiology to school children is inadvisable from any standpoint. But it is by no means certain that practical subjects, something in the line of "First Aid to the Injured," might not be profitably taught to children, and it is impossible to say how far this sort of teaching might be extended to advantage. Nothing but a practical trial will determine the feasibility of this project because there are weighty theoretical objections to it. In addition to the defective appreciation of cause and effect, which is inseparable from childhood, there is another weighty objection which, we suspect, contains the true explanation of the inaptitude of the average human being in dealing with medical subjects. We refer to the inborn dislike and repugnance felt by most individuals towards anything savoring of sickness and death, including the sick room, accidents, deformities, surgical operations, hospitals and all affiliated subjects. Undoubtedly these feelings of fear and disgust interfere with the ordinary action of the mental faculties in dealing with medical matters, and the child, no less than the adult, has this sentimental point of view fully developed.

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* *New York Medical Journal,* Volume LXX, Number VI.

MEDICAL NEWS.

MICHIGAN'S PIONEER MEDICAL SOCIETY.

The North-Eastern District Medical Society, the oldest medical society in Michigan, comprising Saint Clair, Sanilac, Lapeer, Genesee, Macomb, and Oakland counties, will convene in semiannual meeting at Port Huron on Thursday, August 31. Doctor C. B. Burr, of Flint, is the president, and Doctor Sarah E. Conner, of Port Huron, secretary. The sessions will be held at the Harrington. The program includes: "Can the Modern Mother Nurse her Baby?" Doctor Hugh McColl, Lapeer; "Tumors of the Neck," Doctor F. Lohrstorfer, Port Huron; "Tuberculosis of the Throat," Doctor W. F. Strangways, Flint; "Adenoids in Children," Doctor Oliver Stewart, Port Huron; "Notes on Typhoid Fever," Doctor Mortimer Willson, Port Huron; "Movable Kidney," Doctor F. B. Wilkinson, Sarnia, Ontario. A banquet tendered the visiting members by the Port Huron fraternity at the Harrington and a trolley ride to the Beaches will be the attractions in addition to the scientific treat.

THE BETTERMENT OF SOCIETY.

The International Congress on Syphilis will be held at Brussels, beginning September 4, 1899. The important question of prostitution will be considered at this meeting, and the following are names of medical men who have been delegated to investigate the evil in their respective countries and report: Argentine Republic, Doctor Baldomero-Sommer, of Buenos Ayres; Austria, Doctor Finger, Vienna; Belgium, Doctors Bayet and J. Verhoogen, Brussels; Bosnia, Doctor Gluck, Savajovo; Chili, Doctor Valdes-Morel, Santiago; Denmark, Doctor Ehlers, Copenhagen; England, Doctors George Ogilvie and Drysdale, London; France, Doctors Ozenne and Julien, Paris; Germany, Doctors Blaschko, Berlin, and Neisser, Breslau; Hungary, Doctor Rona, Budapest; Holland, Doctor Selhorst, The Hague; Italy, Doctors Tommasoli, Palermo, and Bertavelli, Milan; Norway, Doctor Axel-Holst, Christiania; Roumania, Doctor Petrini de Garatz, Bucharest; Russia, Doctor Petersen, Saint Petersburg; Sweden, Doctor Welander, Stockholm; Switzerland, Doctors Jadassohn and Schmid, of Berne; Turkey, Doctors Von During and Zotos, Constantinople; United States, Doctor Isadore Dyer, New Orleans.

THE PROFESSION IN OUR PACIFIC POSSESSIONS.

THE Medical Association of the Hawaiian Islands recently convened in annual meeting at Honolulu. The President's address was delivered by Doctor Wood, and the principal paper of the occasion was read by Doctor Humphris on the subject of "Tuberculosis." "The Fevers of Hawaii" constituted a theme for general discussion, during the progress of which the statement was made that typhoid fever was not met in that country prior to within two or three years. Hereafter the association will meet on the first Saturday of each month. After the election of the following officers the members indulged in the regular annual banquet, which occurred at the Pacific Club: President, Doctor C. B. Cooper; vicepresident, Doctor F. R. Day; secretary, Doctor C. L. Garvin; executive committeemen, Doctors R. P. Myers and C. B. Wood.

A HIGH STANDARD OF SCHOLARSHIP.

THE University College of Medicine, of Richmond, Virginia, of which Doctor Hunter McGuire is president, has experienced a remarkable development. During the past six years this institution has had a greater annual increase of students than any other medical school in the South, and last year three hundred ten students were registered in its departments of Medicine, Dentistry and Pharmacy. The report of the Virginia Medical Examining Board for the current year shows that forty-two out of forty-three graduates from this school passed the examination. The reports of the Examining Boards of Georgia, New Jersey and Delaware, indicate equal proficiency, while the North Carolina Board, before which eighteen graduates of this school were examined, reports a percentage of one hundred in favor of the applicants. The authorities are reaching out for students and have placed an announcement in this journal.

DOCTOR BRINTON'S DEATH.

DOCTOR DANIEL GARRISON BRINTON, the distinguished ethnologist, archeologist and linguist, died at Atlantic City, New Jersey, July 31, aged sixty-two years. He was a native of West Chester, Pennsylvania, and received his literary degree from Yale College in 1858, graduating in medicine from Jefferson Medical College in 1861. He spent a year studying in Europe and then entered the medical corps of the United States volunteer army, where he served his country during the Civil War, soon earning promotion to medical director of the Eleventh Corps, and in 1865 was discharged with the brevet-rank of lieutenant-colonel. Following the battle of Gettysburg he was disabled from active service by sunstroke, after which he was transferred to the superintendency of hospitals at Quincy and Springfield, Illinois. The Doctor was a prolific writer on ethnological, archeological, and linguistic subjects, and for a time occupied the editorial tripod of *The Medical and Surgical Reporter*, of Philadelphia, and *The Quarterly Compendium of Medical Science*. A collection of twenty-two hundred volumes and manuscripts relating to the aboriginal languages of North and South America was recently presented by the Doctor to the University of Pennsylvania. He was professor of American archeology and linguistics in the University of Pennsylvania, and of ethnology and archeology in the Philadelphia Academy of Natural Sciences. He was president of the Numismatic and Antiquarian Society of Philadelphia, and in 1886 was honored by elevation to the vicepresidency of the American Association for the Advancement of Science, wielding the gavel in the section on anthropology.

A MEDICAL COLLEGE DEFINED.

THE Illinois State Board of Health has been considering the phrase "medical college or institution in good standing" as incorporated in the recently enacted medical practice law of that State, and defines it to mean "legally organized, properly conducted medical institution, having a sufficient and competent corps of instructors, and ample facilites for teaching, dissections, ambulatory and hospital clinics, which conform to the requirements relative to the preliminary education of matriculates, the course and period of study, the number, character and length of lecture terms, the duration of attendance on hospital and clinical instruction, which obtain in the majority of medical colleges in the United States."

A NEW COLLEGE BUILDING.

THE authorities of the Saginaw Valley Medical College recently purchased a very desirable property for a permanent home for the college. The building, which was formerly the Cass House, is located on the south-west corner of Tuscola and Baum streets, and has a frontage of sixty-six feet on the latter. The structure will be remodeled to conform to the requirements of the college, and provision for an emergency hospital is contemplated within its confines. The fall term of college will mark the dedication of the building to medical purposes, and the completeness of equipment, coupled with the desirability of location, will greatly augment the effectiveness of this already progressive institution.

MINOR INTELLIGENCE.

YELLOW FEVER recently invaded the Solders' Home at Hampton, Virginia, but the health officials soon coralled the enemy and prevented further incursion. The disease is now practically extinct in that locality.

THERE is a rumor afloat in New York City that a company has been organized which contemplates the rapid consumption of dead bodies by liquid gas. It is said a crematory for the purpose will be erected at Nyack.

LUDINGTON has the promise of a fully equipped hospital. The building, a large four-story brick, has been presented by Mr. and Mrs. A. E. Cartier, and when remodeled will be under the control of the Sisters of Mercy of Big Rapids.

A SANITARY convention was held at Traverse City, August 22 and 23, under the auspices of the State Board of Health. The objects of the convention were "the presentation of facts, the comparison of views, and the discussion of methods relating to the prevention of sickness and untimely deaths."

THE annual meeting of the American Electro-Therapeutic Association will be held in the city of Washington, September 19–21, under the presidency of Doctor F. B. Bishop. The local committee of arrangements are planning for a large attendance, and the secretary has already announced papers from Doctors R. G. Nunn, A. D. Rockwell, Margaret A. Cleaves, F. J. Leviseur, Walter White, Robert Reyburn, G. A. Corson, C. O. Files, J. H. Kellogg, John A. Licthy, W. W. Scheppegrell, L. Howe, E. Wende, F. B. Bishop, Robert Newman, W. J. Herdman, G. B. Massey, and Professors Bergonie, of Bordeaux; Apostoli and Dolbear, of Paris.

RECENT PUBLICATIONS.

REVIEWS.

PRACTICAL DIAGNOSIS.*

We have already called attention to a previous edition of this work. It is nevertheless a pleasure to recall its salient features and remark its popularity. The author approaches disease in the same manner which every practitioner necessarily adopts. Pathological processes are studied first through symptoms. The author's style is easy, plain and practical, and enables the reader to grasp his thought at once. The book is of convenient size, furnished with excellent paper and plain type, and well illustrated.

*By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Fourth edition, enlarged and thoroughly revised. In one octavo volume of 623 pages, with 205 engravings and fourteen full-page colored plates. Cloth, $5.00, net. Lea Brothers & Company, Publishers, Philadelphia and New York.

HAY FEVER AND ITS SUCCESSFUL TREATMENT.*

The author of this little work has felt encouraged, in spite of the misgivings expressed by others concerning the possible benefit to be expected from his method of treatment, to put forth a second edition. The main part of the work is taken up with the history, causes, symptoms, pathology and diagnosis of the disease. The treatment is succinctly outlined, and in this edition the special methods for the various types is given more consideration. Notwithstanding the apparent difficulties in following out his directions, the frankness and positiveness of his statements justifies a more familiar acquaintance.

*By W. C. Hollopeter, A. M., M. D., Clinical Professor of Pediatrics in the Medico-Chirurgical College of Philadelphia; Physician to the Methodist Episcopal Hospital; Pediatrist to the Medico-Chirurgical Hospital and to Saint Joseph's Hospital; Fellow of the American Academy of Medicine, et cetera. Price $1.00. Philadelphia: P. Blakiston's Son & Company, 1899.

MEDICAL COMPLICATIONS AND SEQUELÆ OF TYPHOID FEVER.

About a year ago we noticed Doctor Keen's admirable treatise on the surgical aspect of typhoid fever. Comparable with that contribution is the present author's valuable work, which treats of the atypical manifestations of the disease, its medical complications, accidents and sequelæ. On account of the widespread distribution of typhoid fever and its frequent occurrence these works cannot fail to be appreciated, and should go together. In them are collated what is known and may be made use of in the treatment of the unusual forms of this disease. The mental complications are considered in a short article by Doctor Dercum.

*By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; Laureate of the Medical Society of London, of the Academie Royale de Médecine de Belgique, et cetera. Octavo, 267 pages, twenty-one engravings and two full page plates. Cloth, $2.40, net. Lea Brothers & Company, Publishers, Philadelphia and New York, 1899.

The Physician and Surgeon

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

HEMOPHILIA.*

By GEORGE W. WAGNER, M. D., Detroit, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Hemophilia was first mentioned in the writings of **Albucasis**, an Arabian physician, who died at Cordova, Anno Domini 1107. Few cases were reported up to the beginning of the present century, when the hereditary nature of the disease was first fully described by American observers.

The following cases were under my care as interne in the Jefferson Medical College hospital, of Philadelphia, Pennsylvania. Doctor W. W. Keen, chief surgeon on duty, suggested my reporting them at the time but I neglected to do so.

Case I.—J. F., aged twenty-five years. a native of Pennsylvania, a miner by occupation, was admitted to Jefferson Medical College hospital, April 3, 1895, with the following history: When fifteen years old he had a toe injured; hemorrhage from the wound continued one week. When twenty years old, hemorrhage of two weeks' duration followed the extraction of a tooth. Many remedies were tried by his physician without effect but the hemorrhage was finally controlled by plugging the cavity with a cork which was left in place four days. Six months prior to admission he had what he called an attack of rheumatism lasting three weeks. Three weeks prior to admission the index finger of his right hand was caught between two barrels and crushed. Since then there had been continual bleeding from the wound. The wounded member was a mass of lacerated tissue, blood clot and dirt from which blood was continually oozing. The finger was amputated by Doctor J. Chalmers DaCosta at the middle of the proximal phalanx. Moderate pressure was made around the stump and a large quantity of gauze used in the dressing. After the patient was sent to the ward the hand was suspended from a gallows to reduce the blood pressure. In about two hours the dressings were saturated with blood and it was necessary to change the dressings at intervals of from three to five hours. Many local remedies were tried to control the hemorrhage, among which may be mentioned the use of antipyrine, Monsel's solution and powder, solution of cocaine, ice, et cetera, but without any marked hemostatic effect. April 9, under ether anesthesia Doctor W. W. Keen removed the small portion of the phalanx remaining on account of sloughing of the flaps and cauterized the wound with the Paquelin cautery, but this stopped the hemorrhage for a few hours only. I then suggested the removal of the dressings leaving the wound exposed to the air and the use of hot water if necessary. A short time after the wound was exposed to the air the general oozing had entirely ceased with but slight bleeding from some small vessel which was controlled by the application of very hot water by means of a small pleget of cotton. The water had to be applied to some oozing point occasionally for a period of twenty-four hours, when the clot was firm and the hemorrhage did not recur. Patient was kept in bed for several weeks, the temperature to the time the hemorrhage was controlled ranging from 99.5° Fahrenheit to 101° Fahrenheit; pulse 120 to 140 per minute. After the hemorrhage ceased temperature was normal, pulse 75 to 80 per minute. His diet was nourishing but such food as is easily digested; the quantity of liquid was limited. Later iron and quinine were administered. June 1 the scab came off showing a firm scar.

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*Read before the Detroit Medical and Library Association.

Family History.—No tendency to excessive hemorrhage in either the parents, three sisters or three brothers, but two brothers died of hemorrhage. One brother, when twenty-five years of age, received a lacerated wound of the scalp about two inches long. The medical attendant was unable to stop the hemorrhage and the patient died one week after receipt of injury. No history of any excessive bleeding before this attack could be obtained. The second brother, aged thirty years, always in good health, never had attacks of severe hemorrhage until the one which proved fatal. Without apparent cause he commenced to vomit blood and to pass it by the bowel. All efforts to stop the bleeding proved futile and he died at the expiration of three weeks.

Case II.—J. K., aged four years, of Jewish parentage, was brought to the outpatient department of the Jefferson Medical College hospital, bleeding from a small lacerated wound of the mucous membrane of the upper lip at the frenum, and the history that he had been bleeding for forty-eight hours. The physician called in by the family was unable to stop the hemorrhage and so sent him to the hospital. The attendants, failing to recognize the child a bleeder, sutured the wound but the hemorrhage continued as before. He was then sent to me in the surgical ward. I turned the lip up and held it in place by strips of adhesive plaster in form of an inverted T the ends of the crosspiece fastened to the cheeks and the perpendicular to the forehead. Almost immediately after the wound was exposed to the air a clot formed and the hemorrhage ceased. Several times during the first forty-eight hours the lip slipped from its fastenings and each time the hemorrhage recurred. Five days after the hemorrhage had ceased the father insisted on taking the child home. This was reluctantly permitted with the injunction to bring him to the hospital without delay should the hemorrhage recur. He did not return, so I suppose there was not further trouble.

The father was ignorant and could not understand much of either English or German, consequently I could not obtain any information concerning his or his wife's family.

Etiology.—Hereditary predisposition is the best ascertained cause. It may arise spontaneously in a child from apparently healthy stock. Men are more liable to hemophilia than women, the ratio, according to König, being thirteen to one; Legg, eleven to one; Gintac, seven to one. In the literature that I have had access to I found one hundred and ninety cases reported—one hundred and fifty-seven males and thirty-three females—making a ratio of a little less than five to one. The disease usually manifests itself during the first decade of life although a case reported by Watkins[1] was forty-nine years old before there was any hemorrhagic tendency. The hereditary predisposition is generally transmitted through the female to her male offspring, although she herself is healthy and free from any tendency to abnormal hemorrhage but the daughter of a bleeder. The fathers do not seem to transmit the disease to their sons. The son of a bleeder does not commonly transmit the tendency to his children, but it is liable to appear in his grandchildren through his daughters. The tendency may not manifest itself until after an attack of one of the infectious diseases. Hemophilia occurs in all countries and among all races. It occurs in all conditions of life. The majority of bleeders are blonds, although exceptions are not rare. The fecundity of the female members of a "bleeder" family is remarkable. **Clayton**[2] reported a family in which the great-great-grandmother had seventeen children; her daughter, the great-grandmother, sixteen children; her daughter, the grandmother, sixteen children; and her daughter five children.

Pathology.—No morbid conditions have been found after death with any degree of constancy. **Kidd**[3] found in one case great proliferation of endothelial cells lining small vessels of submucosa of mouth (point of hemorrhage), also of vasa vasorum of aorta and vena cava, and degeneration of the muscular coat of small arteries of the oral mucous membrane. Many of the observers have found the blood-vessels normal. One factor in the bleeding, according to **Oliver**[4], is that the vasomotor centre never has complete control over arteries and capillaries. **Morton**[5] frequently examined the blood and found it normal as to coagulability and microscopic appearance. A number of reports, upon the blood condition, show the hemoglobin ranging from forty per cent. to fifty-five per cent., the red blood corpuscles from three million to four million five hundred thousand and the white blood corpuscles from fourteen thousand to fifteen thousand per cubic centimeter. These examinations are generally made after loss of considerable blood and the condition is what we would expect to find. **Fischer**[6] thinks there is an alteration in the quality and quantity of the blood caused by increased activity of the blood-making organs. **Wright's** experiments lead him to think there is a deficiency of lime salts. Another theory is that the blood-vessels are abnormally frail. Autopsies in four cases revealed very narrow lung space. **König**[7] and **Legg**[8] divide the arthritic condition into three stages: (1) The hemorrhagic, showing only hemorrhage into the joint. (2) The inflammatory, showing rusty-colored synovial membrane and slight erosions of the cartilages. (3) The retrogressive, the synovial membrane a deep red, cartilage deeply eroded and destroyed. The last producing conditions resembling those due to tuberculosis. Sometimes the joint condition resembles rheumatoid arthritis.

Symptoms.—The first symptom which usually calls the physician's attention to a "bleeder" is the uncontrollable hemorrhage from an insignificant wound. It is rare for bleeders to be noticed at birth. **Legg** divides the disease into three grades:

(1) The tendency to every kind of hemorrhage, external or internal, spontaneous or traumatic and marked swelling of the joints. This form is usually seen in males and is often the cause of death.

(2) Spontaneous hemorrhage from mucous membranes and submucous ecchymoses.

(3) Seen only in females, ecchymoses and profuse menstruation.

Plethora, with its accompanying symptoms, pulsating carotids, red face, headache, vertigo, et cetera, generally precedes spontaneous hemorrhage. One may have a chill and pain all over the body or in the joints preceding a hemorrhage. Bleeding may be severe but in the majority of cases there is a continuous capillary oozing, which in many cases proves fatal. The hemorrhage may be intermittent. Epistaxis is by far most frequent, then follows hemorrhage from the tongue, gums, stomach, bowels, bladder, lungs and kidneys in the order named. Hematuria is not frequent, occurring in five cases of the one hundred and ninety studied, and being fatal in two. The slightest injury may result fatally. Fatal results have followed the extraction of a tooth, circumcision, vaccination and bites of the tongue. A slight blow produces a "black and blue spot" such as is usually seen after a severe injury. Suppuration rarely follows an injury. Members of a family of bleeders, who themselves are not typical bleeders, may have attacks of profuse epistaxis and the female members profuse and prolonged menstruation. Some abort easily. Interstitial hemorrhages are quite common. Renal colic may occur, due to the passage of blood clots through the ureters. The joint affections of hemophilia are important and often troublesome. They may follow exposure to wet and cold. They are often preceded by prodromata—a feeling of "pins and needles" in fingers or toes of affected limb or a feeling of heat in the joint. The joint becomes swollen and painful to the touch and apparently filled with fluid; there may be fever. The knee is most commonly involved, then follows the hip, elbow, ankle and wrist. Duration of an attack may be several weeks and relapses are common. Repeated attacks may result in an ankylosed joint or at least impairment of its usefulness. Bleeders often are untruthful, have bad tempers and suffer from melancholia.

Prognosis.—Fortunately hemophilia is not common. In the one hundred and ninety cases studied there were one hundred and ten deaths, a mortality of fifty-seven per cent. Fatal in early life the risk diminishes with advancing years. Recovery with rapid blood-making may follow an attack in which the patient is almost exsanguine. To show the great mortality in a typical bleeder family I will again quote from CLAYTON'S[9] cases of the fifty-four children, twenty-four were boys, all bleeders, and eighteen died of hemorrhage, a mortality of seventy-five per cent.

Treatment.—As the pathology of the disease is somewhat obscure the treatment must be more or less empirical. For the control of the hemorrhage almost every drug known to have a hemostatic effect has been tried. Monsel's powder and solution, tannin, alum, antipyrine, et cetera; also such means as cold in the form of ice or ether spray. The actual cautery has also been resorted to with benefit in a very small proportion of cases. Internally such drugs as ergot, gallic acid, and perchloride of iron have been given with little effect. In 1891 WATKINS[10] used the lime salts with success and HUNTLY[11] in 1894 used calcium chloride in combination with opium in severe hemorrhage with good result. Later, in 1894, WRIGHT[12] reported the use with benefit of calcium chloride in one-quarter per cent. to one per cent. as a local styptic and its internal use in small doses and advised the administration of a solution of nucleo-albumins at the same time if necessary. PUNGS[13] also used calcium chloride with success but in the hands of Ross, SHAW[14] and a number of others the results were negative. BEENSWALD[15] controlled the hemorrhage in one instance by depositing on the wound blood aspirated from a healthy person. FINCH suggested the use of hot water irrigations but had not tried it himself. Venesection has been tried with some success. Cocaine in four per cent. solution as a local styptic was effective in the hands of ROBINSON[16] in one case. Gelatin by injection was used in one case with good result.

I again note the successful treatment of the cases that are the basis of this paper, by leaving the wound exposed to the air. It may be necessary as in one of these cases to apply hot water to control the hemorrhage from some small artery that cannot be caught and tied. December 3, 1898, BROWN[17] reported the successful treatment of a case by inhalation of oxygen. The use of oxygen by inhalation had occurred to me and I discussed its use in this condition with a member of this association (who is present tonight) at least some months previous to the report of BROWN'S case. The after treatment is the same as in any case of simple anemia. In the treatment of the joint affections absolute rest with simple puncture if necessary may give best result. The local application of iodine or ichthyol may be of benefit. All counterirritation should be employed with caution as it has been followed by alarming hemorrhage and extensive sloughing. Surgical intervention should be avoided if possible.

Prophylaxis.—Members of bleeder families should be guarded from injury, particularly the male members; operations of all kinds should be avoided if possible. They should seek occupations in which there is little risk of injury. Fresh air, frequent bathing and outdoor exercise is desirable, but exposure to cold and damp should be avoided. Alcoholic stimulants should be prohibited.

Daughters should not marry. The administration of salines and calomel, should plethora manifest itself, although mercury should be given with care as alarming hemorrhage from the nose and gums has followed the taking of blue pill. I would advise a warm equable climate with an outdoor occupation.

I will not take the time to discuss the different theories regarding the pathology of the disease nor the merits of the different remedies, but in closing will state that after a careful study of the literature at my command I think the following conclusions may be drawn:

(1) That hemophiliacs make blood rapidly, the cause of which is undetermined.

(2) There is a tendency to plethora of the smaller vessels, especially of the capillaries.

(3) That the deficiency of oxygen in the blood is one of the main reasons for its slow coagulation.

(4) That the narrow lung space, at least in some cases, is a factor in the deficient oxygenation of the blood and would suggest that in future the capacity of the lung space be carefully noted.

(5) Apparently the best remedy to control the hemorrhage is oxygen either by inhalation or contact. It acts in two ways, it causes greater rapidity in the coagulation of the blood and it also causes the nuclei of the endothelial cells of the capilliary wall to swell and so narrow the lumen of the vessel.

BIBLIOGRAPHY.

(1) Paper read before the Nashville (Tennessee) Academy of Medicine and Surgery, December 17, 1891.
(2) *The Lancet* November 13, 1897.
(3) *The Lancet* May 25, 1878.
(4) *The Lancet* September 18, 1886.
(5) *The Lancet* April 10, 1886.
(6) *The Lancet* November 23, 1889.
(7) " Volkman's Clinical Lectures. "
(8) " A Treatise on the Hemorrhagic Diathesis."
(9) *The Lancet*, November 13, 1897.
(10) Paper read before the Nashville (Tennesse) Academy of Medicine and Surgery, December 17, 1891.
(11) *Indian Medical Journal*, May 1, 1894.
(12) *British Medical Journal*, (1894) Number MDCCL, page 57.
(13) *The Lancet*, October 23, 1897.
(14) *British Medical and Chirurgical Journal*, January, 1898.
(15) *La Semaine Medicale*, May 5, 1897.
(16) Paper read before the Philadelphia County Medical Society, January 9, 1895.
(17) *The Lancet*, December 3, 1898.

986 TRUMBULL AVENUE.

A SERIES OF ANALYSES, IN ACUTE MELANCHOLIA, OF THE STOMACH CONTENTS AFTER A TEST BREAKFAST.*

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IN nearly every case of acute melancholia there exist, in a greater or lesser degree, clinical symptoms of stomach derangement. In many cases these symptoms are very pronounced, so much so, that this question often occurs to us—What relationship may the stomach disorder and the associated intestinal abnormalities bear to the etiology of the depressed condition? Subacute or chronic intestinal toxemia is thought to be in many cases a direct causative factor, and abnormalities in the functions of either the stomach or liver, or both, usually precede and are associated with intestinal disorders, hence the importance of looking to the stomach in melancholia.

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Dietetics of mental and nervous diseases require careful study and a knowledge of the chemical constituents of the different articles of diet together with their therapeutic indications and physiological application. It has been demonstrated that the actual structural waste going on in the system from mental suffering is greater than in the sane, when performing most severe labor. If the waste is greater than repair there is not proper cerebral nutrition, and brain inanition follows, and the patient succumbs to exhaustion or passes into chronic dementia.

The examination of the stomach contents after a test breakfast is of the very greatest advantage, even in the treatment of stomach affections among sane people, but in treating the stomach of the insane, it is vastly more important because of the difficulty experienced in eliciting from the patients a reliable account of their symptoms. By means of the test examination we have the great advantage of gaining exact objective information from a class of patients whose subjective symptoms are unreliable and often cannot be depended upon at all because of their disinclination to talk.

METHOD EMPLOYED.

The test breakfast consisted of white bread two ounces, cold water ten ounces. One and one-half hours after breakfast the stomach contents were removed by the expression method of Ewald, using Tiemann's stomach tube, and it was then immediately filtered. Although some difficulty was encountered with some of the patients, yet by firmness and gentleness the process was quickly performed in nearly every case. In only one case of the series was it necessary to use the mouth gag and camisole. The passage of the tube is easily accomplished by having the patient incline slightly forward in a sitting posture, and hold his tongue so that the tip of it will touch the lower row of teeth. It is well to explain to the patient just what it is proposed to do, and thus gain his cooperation, also assuring him that though he may imagine that it will interfere with his breathing, yet he can breath just as well while passing the tube as at any other time. The expression of the stomach contents is accomplished as follows: When the tube has been passed into the stomach so that the mark on the tube reaches the teeth, ask the patient to take a deep respiration and then hold his breath and strain at the same time making, with his hands over the abdominal muscles, a firm pressure. In this way the stomach is compressed and the contents are quickly and satisfactorily withdrawn. In this series of examinations the following tests were made in each case:

(1) For reaction, with litmus paper.
(2) For free hydrochloric acid with congo red test.
(3) For free hydrochloric acid by phloroglucin vanillin test.
(4) For lactic acid with Uffelman's solution.
(5) For acetic acid by sense of smell.
(6) For pepsin with egg albumen.
(7) For propeptones with saturated salt solution and acetic acid.
(8) For peptones by making alkaline and adding a few ounces of one per cent. cupric sulphate solution.
(9) For dextrin.
(10) For achroodextrin.
(11) For erythrodextrin.
(12) For sugar (maltose.)
With Lugol's solution.

It may not be inappropriate before enumerating the cases, to briefly state what should be found upon examination of a normal stomach one and one-half hours after a test breakfast. According to Einhorn the following should be found: "Acid reaction; free hydrochloric present; lactic acid not present; total acidity varying from 40–50 (equals 0.0150.21 per cent. hydrochloric acid) propeptones present, in small amount or merely in traces; peptones in large proportions; pepsin and rennet present; sugar present; achroodextrin present; erythrodextrin present, in small amounts or absent; dextrin absent."

In our series of cases the following was the result in the respective examinations:

Case I.—A. L., aged twenty-four years; female. Has suffered from periodical spells of indigestion, which would last from two days to a week on an average. Complexion sallow; skin dry; tongue normal around tip and edges; slight coating at base; feeble appetite; irritable temper, which was exaggerated during above attacks. Assimilation poor. Mental depression aggravated during gastric trouble. There was no pain in the region of the stomach except during these attacks.

Reaction—Acid. Free hydrochloric acid absent; lactic acid absent; but inorganic acids shown. Total degree of acidity 70. Propeptones freely present. Peptones present.

Case II.—W. L., male, aged thirty-five years. Neurotic disposition. Suffering from mental depression and hypochondriasis. No organic lesions of brain or nervous system. Diagnosis—hystero-melancholia. Tongue covered with a brown coating in posterior region. Edges and front red and clean. Mental activity sluggish. Reflexes exaggerated. Excretions from kidneys and bowels healthy.

Reaction—Strongly acid. Free hydrochloric acid present; total degree of acidity 125; degree of free hydrochloric acid 50; lactic acid present; maltose present; dextrin absent; erythrodextrin absent; achroodextrin absent; pepsin sufficiently present to digest egg albumen in four hours.

Case III.—T. R., a male, native of Italy, aged thirty-six years. Acute melancholia, somatic phenomena. Disordered digestion, diminished peristalsis, dry skin, papillæ of tongue covered with a dark coating, slow circulation but increased arterial pressure, secretions and excretions both decreased, mental activity very sluggish.

Reaction—Strongly acid. Free hydrochloric acid present; total degree of acidity 160; degree of free hydrochloric acid 30; lactic acid absent; inorganic acid present.

Case IV.—Mrs. S. native of Finland. Melancholia stuporous; lost interest in everything; suspicious and extremely obstinate; somatic phenomena; constipation; circulation slow; subnormal temperature; diminished peristalsis; tongue without any coating except over posterior region, but pale and anemic.

Reaction—Strongly acid. Acetic acid freely present; free hydrochloric acid absent; degree of acidity 120; lactic acid absent, but inorganic acids present; propeptones present; peptones present; dextrin absent; erythrodextrin absent; achroodextrin absent; sugar freely present.

Case V.—W. F., a male, aged thirty-four years. Melancholia agitata. His chief mental trouble was due to delusions in relation to religion. He has great fear of the punishment of hell. Physically well nourished. He has made several unsuccessful attempts at suicide. Tongue large and flabby; papillæ normal except a light brown over the center and posterior part. Offensive odor from breath.

Reaction—Strongly acid. Free hydrochloric acid present; total degree of acidity 110; lactic acid absent; inorganic acids shown; propeptones very freely present; peptones present; dextrin absent; erythrodextrin present; achroodextrin absent; maltose present.

Case VI.—Mrs. O., native of Sweden. Suffering from prolonged mental depression; made two unsuccessful attempts at suicide by cutting her neck; tongue flaccid; edges attenuated and shining red. The circumvallate papillæ at the base of the tongue were covered with a brown coating. The fungiform papillæ appeared natural.

Reaction—Strongly acid. Free hydrochloric acid absent; total degree of acidity 100; lactic acid absent; inorganic acids shown; propeptones freely present; peptones present; dextrin absent; achroodextrin absent; erythrodextrin absent; sugar present.

Case VII.—Mrs. L. Suffering from puerperal melancholia; tongue did not present an unhealthy appearance, appetite fair; gained in flesh and improved mentally. Nothing in appearance of tongue to indicate any abnormal condition of the gastric condition.

Reaction—Faintly acid. Free hydrochloric acid absent; total degree of acidity 20; lactic acid absent; peptones slightly present; propeptones absent.

Case VIII.—N. C., female, aged thirty-seven years. Acute melancholia; suffering mental agony from religious delusions; mental activity very much impaired; appetite poor; losing flesh; tongue, thin and flabby with slight tremor, protruded with difficulty and surface covered with brown coating over posterior region.

Reaction—Acid. Free hydrochloric acid absent; lactic acid absent; total degree of acidity 40; propeptones absent; peptones absent; dextrin absent; achroodextrin absent; erythrodextrin present; maltose present; pepsin defficient.

Case IX.—V. R., male, aged twenty-seven years, native of Finland. Profoundly depressed. Had suffered from a fracture of the skull over first parietal lobe, having been struck with a windlass; reflexes normal; physically well developed; pupils respond to light; tongue protruded with difficulty and transverse serrations; enlargement of papillæ, also of oblique rugæ over dorsum.

Reaction—Acid. Free hydrochloric acid present; total degree of acidity 110; lactic acid absent; presence of inorganic acids; propeptones present; peptones present; dextrin absent; achroodextrin absent; erythrodextrin present; maltose (sugar) present; pepsin defficient.

Case X.—L. W., female, aged twenty-seven years. Fairly well nourished; phlegmatic temperament; extremely stubborn and contents of stomach removed with great difficulty; had suffered from melancholia for upwards of a year, and during last few months condition had remained stationary and symptoms indicate passing into chronic form.

Reaction—Acid. Free hydrochloric acid present; total degree of acidity 160; lactic acid absent; inorganic acids present; propeptones weakly present; peptones present; erythrodextrin present; sugar present; dextrin absent; achroodextrin absent; pepsin absent.

Case XI.—Mrs. T., aged thirty-seven years; native of Italy. Melancholia acute; losing flesh; appetite poor; peristalsis impaired; tongue normal in appearance; patient did not improve on tonic medication.

Reaction—Strongly acid. Free hydrochloric acid present; lactic acid none; propeptones absent; peptones present; dextrin absent; achroodextrin absent; erythrodextrin absent; sugar present; pepsin somewhat deficient.

Case XII.—Mrs. K., aged thirty-five years, a native of Sweden; mother of three children, the youngest one month old. Suffering from puerperal melancholia with marked suicidal tendencies; physical condition indicates malassimilation and that patient is suffering from some form of acute toxemia; tongue coated heavily and breath very offensive.

Reaction—Acid. Lactic acid present; free hydrochloric acid present; total degree of acidity 160; propeptones present; dextrin absent; maltose present.

By a comparison of results in these twelve cases of melancholia that have just been cited, it is interesting and deeply significant to note that in every one of them there is a marked and important departure from the normal. In several cases there was presented a total absence of free hydrochloric acid and in a greater number of cases a great deal too much of it.

In these cases a therapeutic suggestion is plain, namely: To supply hydrochloric acid and pepsin where it is absent or deficient and in the directly opposite condition of hyperchlorydria, to prescribe an antacid treatment using the various agents at our command, such as bicarbonate of soda, or some of the preparations of magnesia. The problem of the benefit to the patients to be derived from the therapeutic suggestions made in this series of examinations has not yet been properly worked out. However, the results of the medical treatment then established offered some encouragement even after a very short period of trial.

Treatment.—In the correct modern treatment of diseases of the stomach we have recourse to the following therapeutic measures:

(1) Diet.
(2) Hygiene and exercise in the open air.
(3) Medicinal remedies.
(4) Daily lavage with warm water, using the stomach siphon.
(5) The direct application of electricity to the stomach.

The daily washing or lavage is one of the most valuable aids in the treatment of the stomach. It is important to do this with a certain precision or routine, as upon that depends a considerable measure of success. The stomach should be washed, preferably in the morning, about one hour or more before breakfast; and one pint of water at a time, at the temperature of the blood, should be poured into the stomach through the tube and then siphoned out again. This should be done four times each morning, that is, four pints should be introduced into the stomach, one pint at a time at each treatment. The last washing will be found to be clear upon withdrawing it, if the washing has been properly executed.

The physician should notice the character of the water withdrawn from each patient, as it affords information as to the condition of the stomach. For instance, if food is found upon giving the morning washing, it indicates a very bad condition of the stomach, showing that either the muscular walls of the stomach or the pyloric valve, or both, are not properly performing their functions of emptying the stomach of its contents in due time. If mucus is found to be present, it indicates a catarrhal condition of the gastric mucosa. The stomach should be treated with this daily lavage for a period of at least six to eight weeks, and in many cases for a considerably longer time. It will be noticed often that no marked improvement other than temporary relief is perceptible from this treatment until about the second or third week, and then suddenly the condition of the stomach is so improved that the patient shows daily or weekly gains from that time on. Where there is dilatation of the stomach, or atony of the muscles of the stomach walls, the direct application of electricity to the interior of the stomach by means of the degluttable stomach electrode is of very marked benefit. This can be done very much more easily than might be supposed, but a description of the method is technical and need not be given here. In passing, it might be well to mention the fact that both faradic and galvanic electricity are applied to the stomach with benefit.

STRICTURE OF THE ESOPHAGUS AND ELECTROLYSIS BY A NEW ESOPHAGEAL ELECTRODE.*

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THE esophagus is a muscular canal and a continuation of the pharynx. It begins in the neck at the level of the sixth cervical vertebra and lower border of the cricoid cartilage and is the narrowest part of the digestive canal, leading directly into the stomach. It is about twenty-five centimetres or nine and one-half inches in length. It is most constricted at the point of the fourth dorsal vertebra and at the diaphragm. The esophagus terminates at the cardiac orifice of the stomach.

Stricture is the most important and the most frequent disease of the esophagus. The diagnosis of it is not difficult so far as the determination of the contracted lumen is concerned. There are, however, difficulties in individual cases with regard to the ascertainment of the cause and nature of the stricture. Stricture of the esophagus can be frequently recognized by the subjective symptoms alone. Patients complain that food remains in the throat or above the stomach, and that after a time it is forced up into the mouth with foul odor. Frequently a dilatation occurs about the contracted spot through the pressure of food. Here disintegration and putrefaction of the food take place. The food that has been here retained may be regurgitated through reversed peristalsis. This can be easily recognized as food that has not entered the stomach, for it gives an alkaline reaction and, if it be milk, it is not coagulated. Through a gradual increase of the stricture, difficulty in swallowing arises. As the disease progresses solid food cannot be swallowed and emaciation attains a high degree.

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Stricture of the esophagus arises most frequently through the formation of a cicatrix, hypertrophy of muscle, muscular spasm, development of tumors and of fungous growths. Pressure from without may produce a stricture, and this is known as compression stricture. At times the nature of a stricture is quite difficult to ascertain. But its definiteness is the most important demand made upon the diagnostician, as prognosis and therapy depend upon the decision arrived at with regard to the cause of the stricture.

In the first place, it is important to determine whether the obstruction is due to extraesophageal pressure or not. We must examine the neck to find enlarged or swollen glands. Infiltration of the cellular tissue frequently causes a stricture due to pressure. This in itself would cause difficulty in respiration due to pressure upon the trachea. Percussion over the manubrium frequently elicits dullness and in such cases we may suspect an aneurism, which may cause the dysphagia, and a careful auscultation will assist in the diagnosis. The two radial pulses should always be compared. Mediastinal tumors and large pericardial exudates may press upon the esophagus so that they simulate organic stricture. The vertebral column should always be examined for deviations and for pain to pressure. An abscess proceeding from a carious process of the vertebra may cause symptoms of stricture of the esophagus. A sacculated esophageal diverticulum also may give symptoms of stricture.

We frequently have symptoms of stricture of the esophagus due to a spasm of the musculature. An application of a good-sized tube will usually overtake the spasm. Frequently the tube is held spasmodically and lets go suddenly, and this is usually felt by the operator. This is found in hysterical and neurasthenic patients. At times the spastic contraction of the lumen of the esophagus is accompanied by organic changes such as ulceration of the wall of the esophagus. If a foreign body be present in the esophagus for some time, erosion of the mucous membrane may take place and a cicatrix may form which may produce a marked stricture. The taking of alkalies, acids, or other caustic agents may cause a cicatricial stricture which forms after the ulceration. This kind of cicatrix may develop from any kind of ulceration, syphilitic, diphtheritic, or tubercular.

Frequently an ulcer at the cardia will heal and give us a cicatrix superinducing a stricture. Its presence is recognized by the history of a slowly developing dysphagia.

It is always advisable to exclude all the foregoing causes of the stricture, and if they all prove to be improbable the most frequent cause of stricture is to be suspected, namely, carcinoma. If a stricture be found in a patient beyond forty years of age, with emaciation and cachexia, a cancer is the most probable cause. Yet the diagnosis must be carefully made out, for it may turn out to be a benign stricture. Disgrace of the practitioner and injury to the patient can be obviated by a little scrupulousness. If an exploration with an esophageal tube prove the presence of an obstacle and if, upon removal, mucus and blood cling to the tube a carcinoma must be suspected, providing the symptoms mentioned before be also present. Sometimes the sound passes from the place of stricture into a narrow channel and is here held tight. When it is drawn out, a longer section is felt surrounded tightly by a ring which is formed by a stretched neoplasm. In rare instances bits of tissue are found in the fenestrum of the tube, and if cancer cells be discovered the diagnosis is confirmed.

The diagnosis of a stricture of the esophagus can be definitely ascertained by the introduction of a moderately hard tube of average calibre. Before any tube or sound is introduced into the esophagus it is wise to determine whether an aneurism of the aorta be present. Ewald reports a case ("Diseases of the Stomach," page 127) in which sounding the esophagus was suggested. Percussion showed the heart-dullness to be abnormally increased. From the attacks of pain and general condition an aneurism was suspected. The sounds were not used. Two nights later the patient had a terrific hemorrhage consisting of

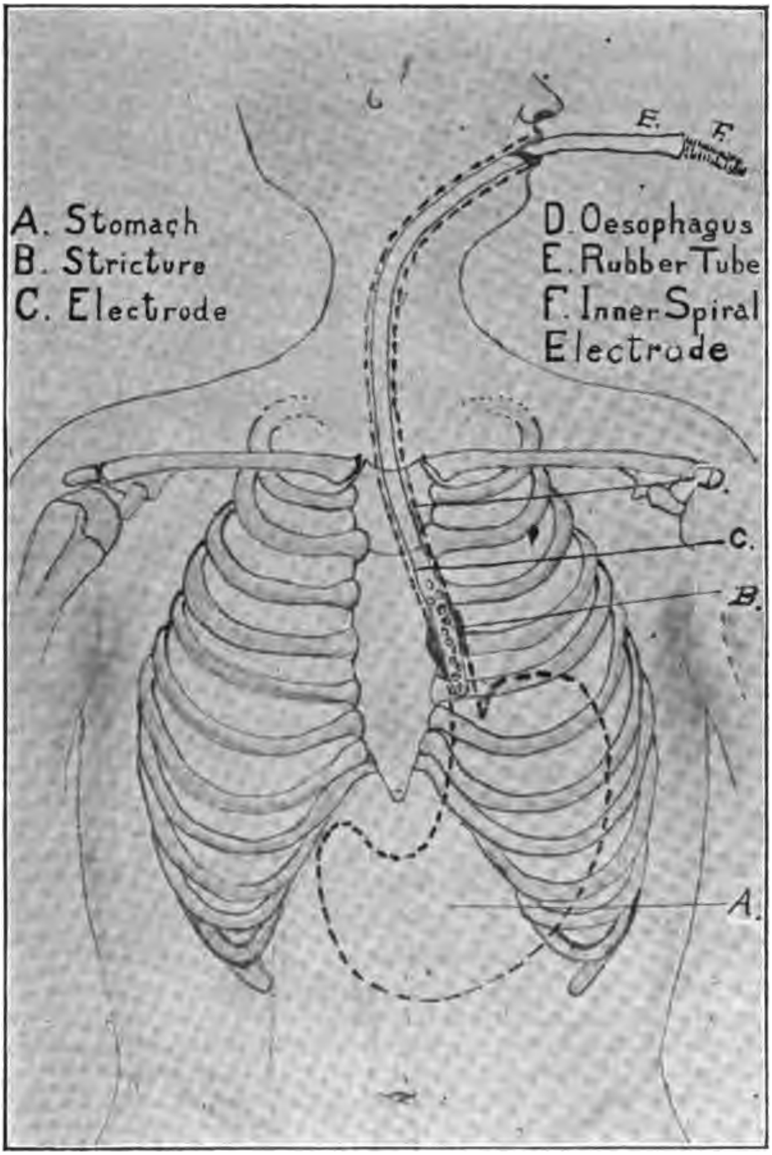

FIGURE I.

pure blood, not frothy, which seemed as though it gushed from the mouth, and the patient died a few moments thereafter. When aneurism is at all suspected, examination by sounds or tubes must always be omitted. When it is decided that the tube is to be used it is advisable to first look for the seat of contraction. This is done in the following manner: The tube is introduced until it comes upon the obstruction. The place where the superior incisor teeth touch the tube is to be marked. The tube is then removed and the length measured from the mark to the end of the tube. This gives the distance of the stricture from the upper incisors. The first sounding of the esophagus should always be done with a flexible stomach tube. This should be passed until it comes upon an obstacle, and then marked where the incisors touch. After the withdrawal the tube can be placed against the cheek and down along the sternum. We can thus approximately locate the strictured spot. The most accurate way is to measure the tube between the mark and its end. The distance from the upper incisors to the cardia in matured individuals is usually forty centimetres. From the upper incisors to the beginning of the esophagus it is fifteen centimetres. From the upper incisors to the point of crossing of the esophagus and bronchus it is twenty-three centimetres. When the stricture is twenty-three centimetres from the incisors we have indication of tumor of the bronchial glands, aneurism, et cetera. If, then, stricture be forty centimetres, we have stricture of the cardia. Cicatricial strictures following the taking of corrosives are usually higher up near the entrance of the esophagus. Advanced age, cachexia, and metastasis are indications of carcinoma.

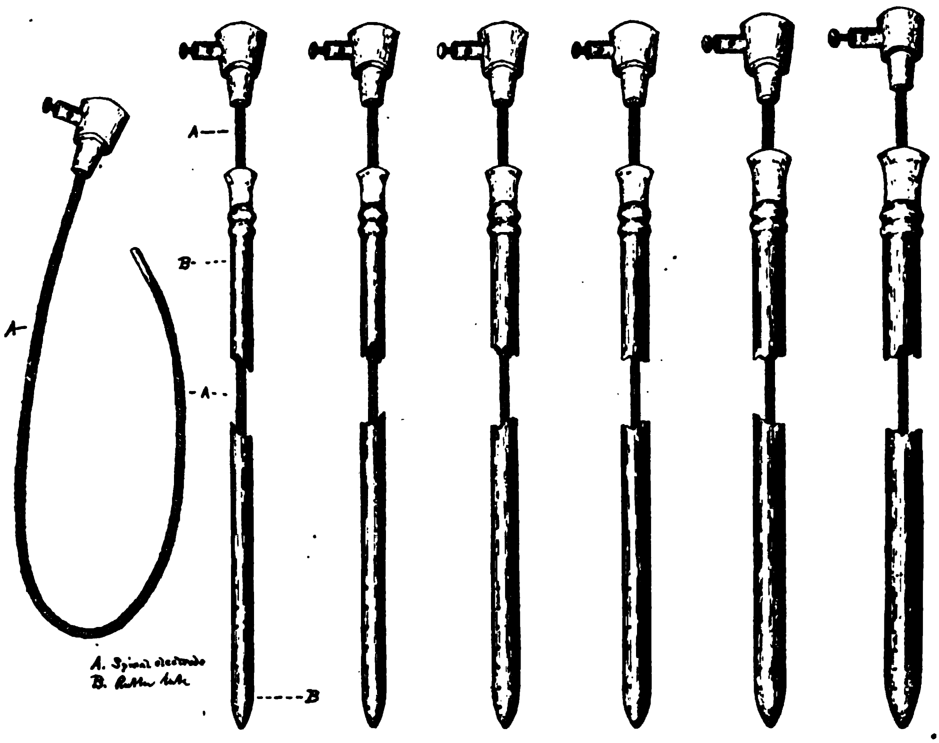

FIGURE II.

The therapeutic purpose of passing esophageal tubes is to remove the strictured lumen. To do this it is necessary for both physician and patient to have the greatest amount of patience. Patience gives far better results than force. In most cases of cicatricial strictures following inflammatory processes, injuries from foreign bodies, erosions, et cetera, good results are obtained.

The best known instrument to locate a stricture of the esophagus is that of

Trousseau. It consists of a smooth whalebone with flat ivory handle. At the lower end of it olives of ivory are screwed on with metallic screws. These olives are of various dimensions and lengths. On account of their shape they can be easily introduced into the strictured spot. Their various circumferences make it possible that smaller olives can be screwed on and introduced until we are sure the strictured spot is passed by one of them. The searching for a stricture of the esophagus with these sounds is similar to searching for stricture of the urethra with olive-pointed urethral sounds. When we take into consideration that in the posterior mediastinum the esophagus is in close relation with pleura, trachea, left bronchus, arch of the aorta, posterior surface of the pericardium and the left auricle, we can readily see that there is great danger in attempting to pass a tube, especially when we have an ulcerating carcinoma. The walls separating a cancer from the pleura, large vessels, bronchus or trachea are always thin, so that an attempt to force a sound inevitably results in disaster. It is always best to proceed very cautiously. At any rate, the greatest care is requisite in directing a tube through a strictured spot, for a false passage may easily be made. When the obstacle has been overcome, the tubes should remain *in situ* five to ten minutes, and immediately after a thicker one should be introduced. If we are successful in passing a hollow tube, a patient may be fed through it. The patients complain of uncomfortable feeling of pressure under the sternum and in the back while the tube is *in situ.* This pain disappears quite rapidly after the removal of the tube. Patients usually object to this sort of treatment, but when they find that it enables them to swallow they tolerate it quite willingly. Tubes of larger calibre should always be used, yet there are some cases in which this cannot be done. For some cases forced dilatation, by means of metallic dilatators, is advised. After this has been done for some time, sounds of large caliber are to be passed. Forced dilatation, however, is always a dangerous procedure, and is to be applied by one thoroughly trained for it. The strictured spot being in the intrathoracic section of the esophagus is removed from direct observation of the operator. Schreiber's method of dilatation is the most practical and the easiest for the patient. It allows an even distention of the stricture and can be released at any moment. It consists of an esophageal tube to which a closed piece of rubber tubing is attached at its lower end. By forcibly distending the tube with water and exerting pressure by the expansion the dilatation can be accomplished slowly. Many good results by this method are reported. The proof of passability does not always mean that the tube has gone farther down. Frequently the tube bends upon itself in a large diverticulum, and this may mislead. The audibility of the swallowing sounds is more valuable as to substances passing the stricture. The sound at swallowing can be auscultated in the back to the left of the vertebral column at the height of the sixth dorsal vertebra. It is a short dull sound which is audible immediately after the act of swallowing. In stricture it is weak and in closure of the esophagus it is entirely absent. The sound can also be auscultated in front and below the sternum, to the left next to the xyphoid cartilage. Above a strictured spot and a diverticulum very loud noises are frequently heard for several minutes. These are probably due to the contraction of the musculature and pressure upon the stagnated fluids.

If the patient cannot be sufficiently nourished through the stricture, it may be necessary to resort to rectal feeding. At times gastrostomy is indicated. This is one of the conspicuous achievements of modern abdominal surgery. It was first described in 1838, but does not seem to have been employed until 1875. The older methods have been improved upon, and altogether new operations have been advised and established with a perfected technique. A gastric fistula is thus provided in the cases of increasing cicatricial or cancerous stricture of the esophagus, through which the patient may be fed and by which he can be spared the pangs of starvation. It is well to let these patients chew the food before it is introduced into the stomach, so that the food is thoroughly salivated. This relieves the work of the stomach and intestine to a certain degree. Esophagostomy is indicated when the stricture is high up. Electrolysis has been a valuable assistant in the treatment of cicatricial stricture. Hemorrhage and the disagreeable symptoms are not observed. I have had some happy results from this method. As soon as a medium-sized tube can be introduced into the stricture I introduce an esophageal electrode. This consists of a rubber stomach tube closed at its lower end. At this end and at the sides surrounding the tube there are several pin-head openings. An electrode is passed into the stomach tube, passing to the bottom. Many instruments have been brought forward for applying electricity to the stomach through a stomach tube, preventing the metal electrode from coming in direct contact with the gastric mucous membrane (BARDET: *Bull. Gén. de Therap.*, 1884. STOCKTON: *Medical Record*, November 9, 1889). Yet I have never seen a stomach tube advocated through which electricity can be applied to the esophagus. When the electrode is in the stricture, connection is made through the secretion from the esophagus which gathers between the electrode and the tube through the pin-head openings. Electrolysis is applied directly through the stricture. After the esophageal electrode has entered the stricture, it is connected with the negative pole of a galvanic battery. The positive pole is placed on the skin. While both poles are held in position the current should be increased from zero very slowly. Three to five milliamperes are allowed to pass through the stricture for ten to twenty minutes. This operation should be repeated three times a week, and a larger electrode should be used at each successive sitting. I am not able to state precisely how much we gain by electrolysis and how much by mechanical pressure.

I report the following cases of cicatricial stricture of the esophagus which were treated by electrolysis in the manner I have described:

Case I.—MISS L. T., with a history of dysphagia, was referred to me by DOCTOR WILLARD CHANEY, of Detroit. She is thirty years of age. Her family history is good. She was always well and strong until she was twenty-one years old, when she was taken with indigestion. For the past two years she has had difficulty in swallowing. This has been continually growing worse. She says that the food goes down part of the way and stops in the esophagus. She must frequently get up from the table, being unable to finish her meal, and at times must forego three or four meals in succession.

She consulted me September 28, 1897. She lost twenty-five pounds and was somewhat emaciated. She said that at times she was unable to swallow water. A physical examination gave negative results. Swallowing sound was heard very indistinctly and was retarded. All nervous trouble, hysteria and neurasthenia, could be excluded. An ordinary stomach tube met an obstruction thirty-eight and one-half centimetres from the upper incisors. Smaller tubes were used, but they would not pass the cardia. Bougies were then tried and a small one was successfully passed. This was allowed to remain a few minutes, when it was removed and a larger one passed. This process was kept up daily until October 26, 1897, when I was able to pass a medium-sized esophageal tube. November 30, 1897, electrolysis was applied to the stricture; the negative pole in the stricture, the positive pole over the xyphoid cartilage. Three milliamperes were allowed to pass through the stricture for ten minutes three times a week. A larger electrode was always used so that mechanical as well as electrical means were employed simultaneously. The relief the patient received was quite marked. January 31, 1898, or eight weeks after the use of electrolysis, the patient had gained twenty-one pounds. She was allowed to return to her home, which was forty miles from the city. She returned for consultation every four to eight weeks, when she would always receive electrolysis in the manner stated above. December 15, 1898, patient felt quite well and could swallow all kinds of food.

Case II.—MRS. A. K., aged twenty-seven years, was referred to me by DOCTOR JONES, of Leesville, for difficulty in swallowing. She had always been in good health until two years ago, when she began to complain of food stopping in the esophagus. This had been gradually getting so bad that she could not swallow soft foods, and even water passed with much difficulty. She lost forty pounds in weight. Foods regurgitate, mixed with mucus, after they had been swallowed. Bowels constipated.

Patient consulted me July 28, 1898, and at this time physical examination showed heart and lungs to be normal. Swallowing sounds were present. Soft rubber stomach tube met an obstruction thirty-six and one-half centimetres from upper incisors. Smaller tubes would not pass the obstruction. Olive-pointed sounds located but one stricture at the cardia. After a test breakfast the stomach contents were removed with a thin calibered tube with some difficulty. It showed a total acidity of 110°. A diagnosis of cicatricial stricture was made. Gradual dilatation by stiffer tubes was accomplished. After a medium-sized tube could be passed, electrolysis was practiced as in case one. The patient soon began to gain in weight, and her improvement has been constant. Patient is still under my care, and is receiving a treatment every two weeks.

Case III.—Mr. D., a clerk, consulted me for difficulty in swallowing. He gave the following history: He was always in good health until two years ago, when he was out with some young men, and being somewhat intoxicated drank a mouthful of sulphuric acid. He had no immediate trouble except a pain in the esophagus. This passed off in a few days. One year ago he noticed difficulty in deglutition which seemed to be continually getting worse. He had been having an esophageal tube passed for the past eight months, yet with unsatisfactory results. I saw him for the first time March 5, 1898. He was well nourished and complained of a dull pain and heaviness over sternum immediately after eating. There was great difficulty in swallowing heavy foods, such as meats and bread. Liquids pass down into the stomach quite readily. Physical examination gave negative results. A medium-sized tube met an obstruction nineteen centimetres from the upper incisors. Electrolysis was given three times weekly and improvement was rapid. After four weeks of treatment patient was able to swallow solid food without any difficulty. Saw the patient in June, 1898, and he stated that he was feeling well. Have not seen him since.

The following points should be observed in sounding the esophagus:

(1) A careful examination should always be made so that an aneurism may be excluded.

(2) A medium-sized soft rubber stomach tube should always be the first tube introduced. Smaller ones, down to catgut, can then be used if necessary.

(3) Patience will accomplish more than force.

(4) If upon the removal of a soft stomach tube we should find no mucus or blood clinging to the tube, then only is it safe to use stiffer tubes.

(5) Trousseau's olive-pointed sounds are valuable in the locating of a stricture.

(6) The distance of a stricture from the upper incisors is valuable in locating and determining the cause of the stricture.

(7) As soon as a soft tube can be passed through a cicatricial stricture electrolysis can be employed. The negative pole in the stricture, the positive pole on side of xyphoid cartilage. Electrodes should be of greater calibre at each successive treatment.

32 Adams Avenue West.

TREATMENT OF SEPTIC PROCESSES OF THE EXTREMITIES.*

By FRITZ MAASS, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively]

A few fatal cases of sepsis due to staphylo- and streptococcic infection, which came under my observation during recent years, induce me to discuss this subject tonight.

The disease originated from insignificant wounds or sores of the extremities and terminated fatally in spite of treatment, which in the vast majority of cases leads to recovery. The therapeutic measures taken consisted in rest, small incisions in search for pus, poultices and icebags. The time elapsing between the first alarming symptoms appeared until death terminated life, ranged from eight to ten days. More effective measures finally were resorted to, but their assistance was too late in each instance. In one case I gained the impression that my interference in the last hour even hastened the end. Under such circumstances I usually tell the relatives of the patient all the possibilities; that operation is the only hope; that this hope is a very faint one, and that the patient might die on the table. The patient himself certainly does not hear these remarks, and often is not even able to understand the situation when such explanations are necessary. I have made this a rule because it is exceedingly difficult to estimate how much a far-gone patient will stand. I have operated in many desperate cases unless they were already dying, and so far have not lost a patient on the table. The impossibility of estimating the time a patient might live and the question whether he will stand a severe operation or not is illustrated by the following instances: I saw one patient already unconscious from severe infection recover from the transportation from house to hospital, endure an amputation of the thigh and die not earlier than five hours later. Another patient, still conscious at the time of operation, died inside of half an hour after I had made about six incisions each nearly a foot long, without chloroform and without removing the patient from the bed. The patients referred to I found lying in the horizontal position and surrounded by poultices or icebags, a treatment which may look somewhat obsolete; but it is not such an easy matter to prove whether it may produce a curative effect or only a soothing one. I believe we are perfectly justified in certain cases to make use of them for the latter reason alone. And if they have not a direct favorable influence upon the process itself they surely have an indirect one by enforcing rest at an early stage, when many patients are not willing to lie quiet. Rest is the first requirement in these ailments and frequently leads to rapid restoration. Besides, with rest we treat our patients symptomatically and etiologically. To discuss the value of the former is not the purpose of this paper. In regard to heart-stimulant medicines, I might say that with etiological treatment conducted properly I rarely see the necessity for them in these cases. And if they become necessary their effect is a very transitory one. We can never feel sure whether heart failure will not be more severe after the stimulative effect passes off than it would have been without it. More difficult than with these I find to dispense with narcotics, though I try to as much as possible.

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*Read before the Detroit Medical and Library Association.

Now, which are the measures that might exert a direct influence upon the cause of the infectious processes of the extremities? Such an etiologic treatment is expected either to destroy, attenuate or eliminate the microbes themselves or their toxins or do the same with both of them. The effect of antiseptic solutions is a very limited one, as the microbes are too deep in the tissues to be reached by them. The method of nature to destroy or eliminate the microbes is suppuration and, if poultices really favor such a process, as it is claimed, they have to be looked upon as an etiological measure. It may also be possible to classify the icebag under this head as a lower temperature is unfavorable for the growth of microbes. Both might be resorted to as long as the process does not spread. But as soon as symptoms of progress appear they have to be replaced by a more effective treatment. The measures to be taken suggest themselves if we look upon such a septic process at the height of its development. The arm or leg is intensely swollen up to the shoulder or hip respectively. The color changes from red to blue, the latter characterizing the gangrenous parts of the skin. Here and there blisters appear frequently, the precursors of gangrene. If incisions are made no pus is found, or in an amount trifling in comparison with the large area infected. A cloudy fluid is oozing off freely instead of pus. In the majority of cases about eight to fourteen days elapse from the first localized infection until this generalization occurs. Why is the system not able to confine the process to its place of origin by forming here the typical abscess? The above described swelling, the cloudy serum, the necrosis, the impossibility of pus formation only can have two causes: either the toxin is too virulent, or if weaker it is allowed to accumulate locally. The experience I have had makes me believe that the latter possibility is the more frequent one. If a small dose of toxin attracts the white blood cells and elicits directly or indirectly multiplication of these as well as of the fixed local cells an overdose paralyzes or destroys everything. The prevention of local accumulation of toxins is therefore the first requirement for the development of local leukocytosis or suppuration. Can we do anything more natural with this end in view than to elevate the arm or leg? Elevation at about an angle of forty-five degrees or more will secure a rapid draining off of venous blood and lymph carrying the toxins. If this proves to be insufficient, the time has come for surgical interference; or, if at our first arrival, the swelling, et cetera, have already advanced to an alarming degree, it has to be resorted to immediately without waiting for a possible effect of elevation. But our operation must be a thorough one, making use of tourniquet and narcosis. It does not matter whether there is fluctuation or pus, the incision starts somewhere and is carried as far as the tissues look abnormal. If one long division does not lay bare the toxin-saturated area sufficiently others have to be made parallel to it, and it may even become necessary to undermine the skin bridges between them. To go beyond the infiltrated and altered area into healthy tissue is better avoided. An incision is a *locus minoris resistentiæ* and may give more favorable soil to the cocci than they would find with the tissues undivided.

Admitting these as the most natural and effective means to prevent the local accumulation of toxin-laden fluid, we naturally seek for an explanation why so frequently they are not resorted to. One reason seems to be that poultices and icebags, frequently effective in milder cases, are more easily applied and kept in place with the limb in a horizontal position. Another may be that the aversion of patients to operation cannot be overcome early enough, and the fact that the visiting physician is frequently dismissed. A third reason most probably is the misinterpretation of the old sentence *ubi pus ibi evacue*, and that the physician who does not find the pus is blamed for doing something unnecessary and perhaps harmful. With us the above sentence means where pus has formed an incision is the quickest way to let it out; with the laity it means it is dangerous to use the knife before pus has formed. Just the opposite is true in our cases; the incisions have to be made to enable the tissues to form pus. That such is really or at least with great probability the effect of them easily can be demonstrated. The first twenty-four or forty-eight hours after incision only a cloudy fluid is discharged, at the same time the swelling goes down and a more natural color appears in the surrounding skin. The secretions then assume more and more the character of pus; that is, they contain more cells, and the wound itself becomes fresh and clean. Watching these changes in their development one cannot help but believe that they are brought about by the incisions and would not have occurred without them, or at least would not have appeared so rapidly and without involving a larger area. How often the measures spoken of will fail, if employed in an early stage of a progressing infection, I am unable to make any approximate statement. In the fatal cases which came under my observation, eight to ten days elapsed before they were resorted to, under conditions looking rather hopeless. In cases which seemed to be of progressive character, arrest and improvement always followed if this line of treatment was employed at an early stage. Certainly one can never say with absolute certainty how a particular case would have developed under a different treatment; some element of doubt remains.

For those cases which are too far advanced for this treatment, or in which it has failed, it is justifiable to resort to amputation. To decide when this has become an unavoidable and still hopeful necessity is exceedingly difficult in all progressing cases. If one has no doubt any more that this is the only way to save the patient's life it is nearly always too late already. I do not remember that I have saved a patient with a rapidly progressing sepsis by an amputation. It is certainly different if the process has become subacute, does not spread any more, and has settled down in one of the larger joints and its surroundings, or in intermuscular spaces of a certain locality. The necessity for amputation then can be recognized more easily and is a hopeful operation. Some doubt may remain, even in these cases, whether or not a resection might do as well. The involvement of the soft parts around the joint and the general condition of the patient are the facts to be led by. On the whole one must be very careful in recommending amputation as an early measure.

After operation, to prevent the accumulation of the wound secretions, more or less frequent dressing is entirely sufficient and the inconvenient permanent irrigation or bath is not necessary. The measures spoken of are the most reasonable ones to prevent the local accumulation of toxins and to favor the local means of defense against the attack of the microbes. But the action of the toxins is not confined to the place of inoculation; they are distributed by blood all over the system and debilitate the function of the heart, the central nervous system, the glands, et cetera. Even the cocci themselves may get into the circulation, become generalized or form new deposits. A reliable antitoxin or an ideal germicidal agent would be most desirable under such circumstances. Numerous favorable reports are found in the medical press about streptococcus antitoxin. But many of the most competent sources remain silent about it and some deny every efficiency of the antitoxin or even hint at the possibility of its not being entirely innocent. I refrain from criticism but admit that I do not feel safe to use it.

Not having an antitoxin or an ideal germicidal agent that may be injected into the tissues, can we do anything else except resort to symptomatic treatment? That nature has means to overcome these enemies, experience shows. Even patients with the microbes circulating in the blood sometimes recover. The means of defense in the general system, as well as locally, are called to action by the toxins themselves if present in moderate amount. Our principal aim must be not to let the latter become too powerful. If the toxic substances are not destroyed in the blood they must leave the system by means of the urine, perspiration, the secretions of liver, intestinal tract and otherwise. As we have nothing to destroy the toxin directly in the circulation it remains for us to favor nature in her efforts. That water is the best remedy for such patients everybody knows and the patient shows by his thirst how much he needs it to dilute, destroy or eliminate the toxins. But it seems to me that we frequently do not give enough of it. The patient should not only be allowed to drink as much as he wants but should be urged and assisted to take it freely, especially if he is in a soporous condition. The question of nourishment only comes second and there is no need for it at all during the first, most acute stage of the disease. By frequent observation I am convinced that abstinence from food for eight or ten days does not do any harm. The pulse keeps up well without digitalis, strychnine, et cetera, if the patient only gets water enough. But if frequent vomiting and diarrhea prevent the absorption of fluid then failure sets in and may progress very rapidly. Giving nourishment, as long as there is such a tendency, can do a great deal of harm. The substances fed may not be assimilated but may decompose, increase the catarrhal condition of the mucous membrane and so be an obstacle to the badly needed absorption of wate As soon as this danger is over then the patient must be fed systematically o fluids, as gruel, beaten egg, sugar solution or milk, in spite of his objectio Bouillon and the like are entirely insufficient as nourishment, especially for patient with an absolute abstinence of eight or ten days behind him. Tha such a treatment is the most effective at present at our command safely can t said. If it fails in the most virulent cases, terminating fatally in from two t three days, it is not to be thrown aside as valueless. I do not claim for i completeness, only recommend it very strongly. The main factors are elevation, thorough operation as the case may require, and water.

It would be interesting to know how the results are in extirpation of the uterus. It should be very difficult to decide whether extirpation of the uterus is indicated or not because the condition cannot be recognized so well as in septic infection of the extremities.

THE TONGUE IN DISEASE.*

By A. I. BURDENO, M. D., DELRAY, MICHIGAN.

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THE tongue, pulse, skin and temperature of the body may be looked upon as the barometer of it at all times making manifest either health or some deviation from health. These deviations are manifest by abnormal changes in one or more of the above enumerated barometers upon the slightest disturbance taking place in the human economy

When called to visit a person who is ill, the first thing we do is to obtain a history of the case; then we examine the patient to find whether or not there are any manifestations deviating from those of health, and invariably examine the tongue to ascertain whether it is normal in tone and color, flabby, teeth-indented, coated, dry or moist and whether or not it is normal in motion and if any change exist from a normal one, how extensive it may be. Any change from the normal condition (unless due to some temporary cause as excessive smoking or eating something which may color the tongue temporarily) is indicative of some pathological condition either temporary or permanent.

If the tongue is normal in condition it is found to be of a rosy hue, moist, covered with minute papillæ, free in its movements and constantly changing in form. If coated we note the color, thickness and extent of coating. The tongue may be entirely or partially coated. It may be partially coated from a carious or otherwise injured tooth, from an enlarged tonsil and frequently from a neuralgia of the lower branches of the facial nerve. If entirely coated and accompanied with an offensive breath without an elevation of temperature we will not go far astray by concluding that the disturbance is in the alimentary tract or some of the accessory organs, and if accompanied with constipation, a clear indication for a mercurial or podophyllin purge or both combined accompanied with some sedative such as hyoscyamus, belladonna or pulverized ipecac compound. If mercury or podophyllin is to be used separately, the question arises, Which shall we use? This is to be determened by the color of the stool; if the motions are too light in color mercurial purges are more suitable; if, on the other hand, the stools are dark-colored, podophyllin will give better results. For this clinical fact I am unable to find any explanation. I have formed the habit of prescribing the purge in the evening, following same the next morning with a saline, omitting a purge the evening of the day on which the saline was taken, and repeating same until three doses of each have been taken. The first dose of purge and saline taken will generally purge considerably, the second dose not as much as the first and the third but little. Then the tongue invariably commences to clean up and soon throw off all its coating, becoming normal in appearance, but if the tongue should not clean up it may be looked upon as a case of impaired nutrition, an indication for toning up the digestive tract by the use of mineral and vegetable tonics.

The coated tongue in fever is observed daily more for prognostic purposes than otherwise. Although the tongue in typhoid fever clearly indicates at times the administration of certain remedies, my observations (though I must admit rather limited) have satisfied my mind that the tremulous tongue of the typhoid patient is an indication of deep ulceration of Peyer's glands, and that all or any means which might produce perforation or hemorrhage should be avoided and that the attendants be forewarned of the possibility of these conditions occurring.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

A dry tongue occurs most frequently during an attack of fever. The dryness commences at the tip, extends up the center, and spreads laterally until the entire surface of the organ is involved. This condition of the tongue is indicative of nervous depression and often accompanied by low muttering delirium. Frequently this condition is due to want of sleep, and by sleep this trouble is very often relieved. Having tried sulphonal, the bromides and chloral, I have years ago discarded them and now depend principally on Dover's powder, and have seldom been disappointed in bringing about the desired results, namely, sleep and the tongue becoming moist inversely as it dried. The dry tongue is also considered an indication for the administration of alcoholic stimulants, but I have found and depend on the pulse as a better criterion upon which to determine the necessity for admistering stimulants, sleep being an elegant restorative. My experience has been that those fever patients who sleep fairly well seldom require a stimulant. If sleep cannot be produced, delirium persist and the tongue remain dry then alcoholic stimulants should be administered, if the pulse so indicate. Often the patient with an excessively dry tongue has a frequent, compressible pulse, a clear indication for the administration of alcoholic stimulants. The tongue does not only show indications for the administration of alcoholic stimulants but clearly manifests whether the patient is benefited or injured by it. If the tongue becomes more coated or dryer during the use of alcoholic stimulants it should be discontinued and the more powerful cardiac stimulants and tonics should be used, as digitalis infusion, strophanthus, nitroglycerine or all combined as the nitroglycerine compound tablet. After an acute illness like typhoid fever, the tongue sometimes parts with its coating in flakes, leaving clear, smooth patches, particularly toward the back. This tongue denotes slow convalescence. In typhoid fever the tongue may a second time become dry with a return of abdominal symptoms. In a case such as this RINGER recommends turpentine in ten to twenty drops in emulsion every two or three hours.

In advanced cases of diabetes the tongue becomes dry, abnormally clean, smooth, glazed and somewhat beefy-looking and, once seen, is always remembered.

The dry tongue of the aged is not to be looked on as indicating the same amount of seriousness as in the youth for it frequently becomes dry in non-febrile diseases. If the dry tongue of the aged is accompanied by sleeplessness great care should be exercised during the administration of soporifics for they sometimes cause great nervous excitement and the use of alcohol should be tried with caution, that is, administered in small quantities and the effect of same carefully watched.

The dry, smooth, glazed tongue of the typhoid fever patient is often observed when considerable tympanites exist and is invariably benefited by the turpentine emulsion.

The irritable tongue: This tongue may be red with the tip covered with red papillæ, the surface abnormally smooth, glazed, and in fact too clean. This tongue indicates an irritable stomach, met in some cases of dyspepsia and invariably in phthisis, where extensive intestinal ulceration exists and in some cases of chronic alcoholism. RINGER recommends small doses of liquor potassii arsenitis before meals as being indicated by this tongue. This tongue is frequently observed in scarlet fever. The broad, pale, flabby, teeth-indented tongue is characteristic and indicates lowered vitality, impaired digestion, faulty assimilation and a lack of tone in all tissues of the body. It is the tongue of the anemic chlorotic and is frequently observed in the exsanguinated being and in many chronic diseases, particularly Bright's disease, and is an indication for the use of iron in as large doses as will be tolerated by the stomach and properly assimilated. The swollen, teeth-indented tongue during a course of mercury is one of the first symptoms of salivation. The tongue slightly coated with a grayish coating and frothy at the edges is to be seen in the neurasthenic, and often this condition exists with those temporarily depressed by overwork or worry.

MONSIEUR BALLET speaks of the hemiatrophied tongue which he has observed in those afflicted with locomotor ataxia. He says there is a very noticeable diminution in size of one side of the organ and its surface is drawn up in ridges. MONSIEUR BALLET regards this as a diagnostic sign of great value as it is one of the earliest signs and may be present before any of the more prominent symptoms of the disease become manifest. I have seen this sign very pronounced in one case of locomotor ataxia of six months duration. The atrophied tongue is observed as the condition progresses in other muscles of the body in the course of muscular atrophy. Inability to move a part or the whole of the tongue is to be observed in those afflicted with paralysis. Frequently the longitudinal half is affected in hemiplegia. If moved at all it is with difficulty and the movements are frequently toward the paralyzed side of it. The cold tongue is observed in those seriously collapsed from any cause, particularly Asiatic cholera.

REFERENCES:

RINGER'S "Therapeutics." "Reference Handbook of Medicine."

ACNE VULGARIS AND ITS TREATMENT.*

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NEXT to eczema, acne is the most frequent disorder of the skin in this country, averaging from ten to twenty-five per cent., although perhaps but a small portion of the cases ever come under the care of the family physician. The reasons of this are that it is too often considered a mere blemish and patients are too apt to consider it as a necessary accompaniment of certain times of life; moreover, it is a common belief that it is not capable of a cure, but must be borne, the idea being that it will disappear in time. The eruption is the cause of a very great amount of distress and annoyance, and anyone who has had much to do with its removal will realize the relief and pleasure given thereby to those afflicted with it.

Acne vulgaris is a chronic affection of the skin, generally limited to the face, neck and shoulders. It may exist on any part of the body where sebaceous glands are to be found but is rarely seen in the scalp and extremities. It is essentially a disease of adolescence and even if untreated tends in the course of years to disappear. The first stage of the disease is marked by hyperkeratosis of the epidermis, which affects not only the surface of the skin but also the mouths of the follicles and sebaceous ducts, giving rise to comedones. Comedones are made up of epidermal scales, generally arranged in concentric layers around a core of sebum. The outer end is usually colored black, which is due partly to deposit of pigment and partly to dirt. The hyperkeratosis seems to be due to a slow process of cornification, as both the corners and granular layers of the epidermis are thickened, whilst the mucous layer remains normal. A comedo is sometimes thrown off, but it is more frequently held in position by the constricted orifice of the follicle, thus preventing the escape of sebum. The obstructed as well as the sudoriparous glands are more than normally active, giving rise to a hyperhidrosis oleosa, which is generally a marked feature of this disease. The skin in these cases is usually anemic and more adherent than normal to the subcutaneous tissue. Another symptom, which I have noticed in many cases is the facility with which an inflammatory edema may be produced by slight irritation, such as the unsuccessful attempt at the removal of a comedo.

If the comedo is not removed, a folliculitis or perifolliculitis is apt to be set up, giving rise to papules, nodules and pustules, which, together with comedones, are the characteristic lesions of this disease. The form of the lesion depends, to a certain extent upon the structure of the comedones as well as the thickness of the skin. When the hyperkeratosis of the epidermis is very marked, the inflammation is often deeply seated and extends beyond the gland, producing a hard purplish or red papule or nodule, which quickly suppurates but rarely ruptures. This is the type of the disease known as acne indurate. This form frequently gives rise to cicatrices and upon these keloid growths may appear. The terms acne simplex, acne punctata, acne pustulosa, are applied to the more superficial forms and are useful to designate clinical varieties of the disease. Acne simplex is used when the comedones are invisible to the naked eye, whilst acne punctata is applied to the disease when the comedones are visible in the centres of the papules and pustules. When the lesions of either form are as large as small peas and the inflammation more marked, then the name acne pustulosa is used. The cause of the inflammation in acne vulgaris is not definitely settled. Most dermatologists believe it is due to pus germs. This view is supported by the fact that staphylococci are always found in the suppurative stage. Unna is of the opinion that a special form of bacillus, which he has invariably found at the inner end of the comedo, is the cause both of the inflammation and the suppuration. All investigators agree that the demodex folliculorum, which is frequently found in comedones, takes no part in the etiology of the disease.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

The foregoing description of the disease limits the field of acne vulgaris to a folliculitis or perifolliculitis following a hyperkeratosis of the epidermis and comedones and therefore would not apply to such disorders as bromine acne, iodine acne, acne cachecticorum, acne varioliformis.

Treatment.—The treatment of acne vulgaris, requires both local and general measures. Local remedies should be directed towards the removal of comedones, to reduce the hyperkeratosis of the epidermis by hastening cornification, and to disinfect the skin; whilst constitutional treatment should be used for any systemic disturbance which may reflexly affect the parts. I generally commence treatment of a case of acne by ordering a strong keratolytic ointment such as the following:

℞	Sulphur, Precip., ...	ʒiss
	Resorcin, ...	ʒj
	Acidi Salicylici, ...	ʒss
	Vaseline, ...	℥j

Signa: Apply at bedtime after scouring the face with tincture of green soap and hot water.

In the morning the ointment should be washed off and cold cream or some dusting powder applied during the day.

The above ointment is best made by melting the resorcin in the vaseline, otherwise it is gritty and very irritating. When this has been applied for a few days the skin becomes more or less inflamed and scaly. If the inflammation becomes too intense the strength of the ointment should be reduced.

Strong preparations of resorcin have a two-fold action, one causing exfoliation, the other hastening cornification and producing a firmer and harder corneous layer. Salicylic acid hastens exfoliation and sulphur acts similarly to resorcin, but, in addition, appears to have a direct restorative effect upon the glands. In some cases the ointment seems to have a better result if the salicylic acid is omitted. This preparation should be applied every night for a month or six weeks, according to the severity of the case. If at any time the parts should become highly inflamed, cold cream should be applied until the inflammation subsides, when the regular treatment should be resumed.

The next indication in the treatment of this disease is the removal of the comedones and the lancing of papules, nodules and pustules. I have always found the comedones much more easily expressed after the ointment has been applied for a week or two than they were before treatment. This is due to th thinning of the skin, thus removing the constrictions at the mouth of the follicles. This part of the treatment should be performed by the physician himself as the results are much better than when it is left to the patient. Great care should be exercised in order that the comedones, both with and without black heads, should be removed as completely as possible, and with little injury to the parts affected. At first this treatment is required twice a week, but soon once a week and then once a fortnight will be found sufficient.

When the face is improved so that only a few papules are appearing, then all that is required is an antiseptic wash such as one in one thousand of formaldehyde or one in five hundred of bichloride of mercury. I have used a preparation which is sometimes called the white lotion for the same purpose. It contains the following:

℞	Potassæ Sulphuratæ, ...	āā ʒj
	Zinci Sulphatis, ...	
	Sulphur, ...	grs. xxx
	Aquæ rosæ, ...	ad ℥iv

Misce. Signa: Apply every night.

The constitutional treatment will depend upon the nature of the systemic disturbances. Diseases of the alimentary tract should receive particular attention. Constipation, which is very often present, should be relieved by change of diet and, if this is not sufficient, by laxatives such as aloin, cascara sagrada, et cetera. When the constipation is associated with anemia, Startiu's mixture will be found very useful. The diet should be plain and unstimulating, and should be selected to suit each case. Tea, coffee and alcoholic beverages are, as a rule, contraindicated. Iron, strychnine and arsenic are very useful in many cases wherein anemia and debility are present, but arsenic is contraindicated when the lesions are very irritable. Cod-liver oil will be found useful in patients suffering from scrofula. Active exercise and plenty of fresh air are two good tonics to be recommended to patients suffering from this disease. Cold sponging of the whole body every morning, followed by rubbing with a coarse towel, is also a remedy worthy of trial. When suppuration is a prominent symptom, sulphide of calcium is recommended by some physicians. I have tred it in a number of cases and have not noticed any benefit from its use.

The prognosis is good as far as a cure is concerned but relapses are apt to occur. If care is taken in preventive treatment these will never amount to anything more than the appearance of a few lesions. I have treated about fifty cases during the past five years by the foregoing method and cannot recollect a case wherein close attention was directed to the treatment in which a complete cure or a cure subject to slight relapses was not effected.

262 Watson Street.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MAY 15, 1899.

The President *pro tempore,* WILLIS S. ANDERSON, M. D., in the Chair.

Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Fritz Maass read a paper entitled "Treatment of Severe Septic Processes of the Extremities." (See page 411.)

Doctor Metcalf: My recent encounter with some of the germs in question has led me to respect them, and also has brought to my attention the fact that there is a great diversity of opinion as to the best method of treatment. Some, as the essayist says, find great benefit from hot applications; others from ice-bags; others from continuous immersion in hot water. The doctor suggests that some expression be given as to the proper time, if at all, for removing the uterus in cases of virulent infection. Perhaps to demonstrate the principles which he has advocated I might be permitted to report a few cases. In 1897 a case presented itself to my attention in the third week of sepsis following labor at full term. The fever was intermittent, chills occasional, profuse sweating, skin pale, evidences of hypostatic congestion of the lungs, albumin in the urine, temperature 105° and pulse very rapid. Hysterectomy was performed and the patient died in twenty-four hours. Autopsy showed multiple abscess in kidneys, liver, lungs and pleuræ. These foci had been carried there but no quantity of pus had been found anywhere on account of the suddenness of death. The next case was identical. Antistreptococcic serum was given, three injections having been made, but there was no amelioration of the condition. In this case there was no evidence of albumin in the urine and no hypostatic condition of the lungs. Hysterectomy was performed and for a short time slight improvement was apparent. She again showed unfavorable symptoms and a second operation was performed from which the patient made a good recovery. Another case followed attempted abortion. Streptococcic infection resulted and death occurred on the fourth day. The doctor mentioned some points which I think of very great importance. As to the use of this serum my experience has been limited to perhaps a dozen cases. In all of them pus formed before using the serum. In none did I see any beneficial results. In my own case the temperature was 106° but after the use of the serum and incisions which were made the temperature went down to 101°.

Doctor Carstens: Some years ago certain authors were strongly advocating vaginal hysterectomy for puerperal septicemia. The question came up at one of the meetings of the American Medical Association and I vigorously opposed it. I do not think vaginal hysterectomy is the proper procedure in cases of puerperal sepsis, especially in young women. All patients affected with puerperal septicemia do not die. Cases suffer six or eight weeks and then recover, even though they have had a temperature of 106° or 107°. I remember the case of a physician's wife, who was supposed to have died of puerperal septicemia, but the autopsy showed that the kidneys were twice their normal size. There was no albumin in the urine, but the morbid condition was manifest in the kidneys. The operation of vaginal hysterectomy is a dangerous one under any circumstances, but it is extremely more dangerous under this condition. There are a few points in the doctor's paper which we have to bear in mind, and I am glad that he emphasized this one, namely, when you have pus you must evacuate it. Incise even though you have no pus, and let out the serum. In certain cases pus will spread over the entire system, owing to the inability of the tissues to resist the onset of the invasion, and you have to build up the patient and promote elimination of effete material. I often give my patients a rectal enema of a saline solution or subcutaneous infusion to wash out the kidneys, also order large quantities of water, soup or other liquids to be taken. I often have the greatest difficulty to get the nurse to give the patient plenty of water. I believe in giving the patient remedies and nourishment sufficient to enable the system to take care of these bacilli. As far as the use of streptococcic serum is concerned I do not believe it has much effect on the condition of the patient suffering from septic infection.

Doctor B. R. Shurly: I have been especially interested in this paper because I have come in contact with quite a number of these cases early, and must say that from the standpoint of the general practitioner there has been considerable controversy in my own mind as to what is the proper treatment in the early stage of septic infection of the extremities. Where we have a localized condition and the red lines starting up the extremities, what is the proper course to pursue? From the cases that we had at the hospital and have seen treated in both ways, I believe that where ice was used the results proved most beneficial, coupled of course with a thorough evacuation of the abscess if pus had formed. I believe early treatment will enable us to avoid the grave symptoms which follow.

Doctor F. L. Newman: I agree with **Doctor Shurly**. It seems a pity we have not some definite rule of treating these cases when we see them early. There is an element of doubt as to the proper method of treatment. I was delighted to hear **Doctor Carstens**' ideas about vaginal hysterectomy in puerperal septicemia. I have always thought operative interference unwarrantable. While the septic condition is confined to the uterus I think much can be done by thorough antiseptic measures and building up the patient, thus enabling them to throw off the influence of the poison.

Doctor Hitchcock: I have not had a large experience with extensive septic processes of the extremities, but have had a number of cases of minor infections which if neglected might have become serious. Incision and drainage are the A B C of the proper treatment, and the careful surgeon will see to it that there are proper channels for the evacuation of the pus. It struck me that **Doctor Maas** attached little importance to the external use of antiseptic solutions. I recall the case of a patient of mine, that of a young woman, who had pus form on one of her fingers, and the trouble extended up the arm. Incision and drainage were performed, and the arm placed in a solution of bichloride and she made a good recovery. In cases of men wounded in packing houses much benefit has been obtained by soaking the part infected in bichloride solution.

Doctor D. L. Parker: The one point, in infected wounds of the finger, that struck me is that if one could kill off the development of germs at the point of invasion good results would follow. I make a large opening and introduce a bichloride tablet and then wash it out slowly, and in this way the diseased focus is made to disappear.

Doctor Maass: I have not very much to say. There are only a few points upon which I will briefly touch. **Doctor Shurly** spoke of the red lines. If they appear before incision they are a warning to you to carefully watch your patient. Now, as to the use of antiseptics. None of the gentlemen who have used them do so without incision. I never use them. I make the incision and then employ dry dressing. Strong bichloride solution causes coagulation and makes the tissue unhealthy. You want healthy tissues and if you use bichloride you destroy these tissues. In regard to the question of extirpating the uterus I have no experience. There can be no question that where there are metastatic abscesses of the kidneys it will do no good. If there is a pus cavity or a pus infiltration all around the uterus, and this is confined without the peritoneal cavity, I believe good drainage is valuable. The good effect of water can hardly be denied.

STATED MEETING, MAY 22, 1899.

The President, CHARLES DOUGLAS, M. D., in the Chair.

Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor G. W. Wagner read a paper entitled "Hemophilia." See page 397.

Doctor Flintermann: Heredity is the important factor, and the daughter is the medium of transmission. I have two cases in mind. One man, aged sixty-three years, has had many serious hemorrhages, being thought dead on the occasion of one of them. One from the cavity left by the extraction of a tooth was stopped by plugging with wax. He has had intestinal hemorrhages frequently, from what I consider to be a duodenal ulcer, and has also had some into the hip- and knee-joints. His father had married into a family of bleeders, marrying a sister on the decease of his first wife. The eldest boy resembled the father and was not a bleeder, but two other children were and died young from that cause. Several other children, some male and some female, have not exhibited this peculiarity, however. Another man whom I first saw in consultation, had what I diagnosed a hemorrhage into the knee-joint. The doctor in attendance had prescribed a blister, and when it was removed serious bleeding occurred. Cauterization was successfully used for a hemorrhage from the cavity left by tooth extraction. He died at the age of twenty-four years, from hemorrhage. Smallness of lungs is a great factor in the causation of this disease. Lacerated wounds bleed more freely than incised, and for this reason make the edges of a wound clean. Sulphate of soda has been highly recommended as an internal medication.

Doctor Bell: I have had no cases, but from what I have read of the literature of the subject, I consider that in this affection there is either a thinning of the tunica intima from a disturbance in the vasomotor nerves, or a lack of coagulability of the blood. On the first theory, strychnine sulphate has been used in some cases with good results. Extract of the suprarenal capsules has been used, as it has been found to be a powerful vasoconstrictor. **Doctor Wright**, of Dublin, has secured good effects from the administration of calcium chloride in certain doses, too much being harmful. Also externally he used a paste of carbonate of calcium. Antipyrine and tannic acid have also been used externally.

Doctor Carrier: There are so few cases it is hard to reach conclusions on the etiology and treatment of these cases. In severe hemorrhage from a cavity left by tooth extraction, plugging is very beneficial. One case I have had lately, in which there was considerable hemorrhage for some days after slight wounds. Exposure of the wound to the air did not stop the hemorrhage, nor did some blood which was caught in a vessel coagulate for some time. It seems to me we are as much in the dark as ever about this condition.

Doctor Yates: **Doctor Carnot** has used, in fifty-four cases, gelatin in normal saline solution as an external application with benefit.

Doctor Gurd: In one family, which I have under my care, who were bleeders, there were five boys, one of whom died at the age of nine years from bleeding. They were decidedly rheumatic. Some had ecchymoses without any apparent cause. Hot water has been the most useful remedy in my hands. One boy overcame the tendency by a life of roughing it in the northwest.

Doctor Deuel: One case which I consider to be of this kind, had a hemorrhage from the juncture of the cord with the body shortly after birth, and it was arrested by ligature.

Doctor Wagner: I found no case of umbilical hemorrhage on record in bleeders. I still consider oxygen the best remedy, causing the nuclei of the cells of the capillaries to swell and the blood to coagulate more rapidly, thus causing the hemorrhage to cease. The injection of gelatin is dangerous, one patient having died from thrombus who was treated in this way. In the case reported by **Daland**, the higher the altitude the more frequent the hemorrhages.

REPORTS OF CASES.

PRACTICE OF FREDERICK W. ROBBINS, M. D.

GALL-STONES REMOVED POSTMORTEM.

My patient, a woman, aged thirty-eight years, has several children, the oldest a boy about twenty years. Within a few years two children were stillborn, one the result of labor induced on account of albuminuria. I found her again pregnant and about four and a half months along. At this time she was suffering some abdominal pain, not markedly localized. Her urine was not albuminous. She said that she had been having such attacks of pain occasionally every few weeks for several months. At my second call later in the day I diagnosed gall-stone colic. After a day or two this attack entirely passed away. In March she had two attacks which passed away like the first. There was no jaundice and after one of these attacks she claimed to have found the stones which I had described, in the stools, but did not keep them for my inspection.

A slight attack the latter part of March was followed by more than three weeks of perfect comfort, but on April 24 I found her suffering with pain, not as intense as when seen before, but vomiting. On the 26th she began to show signs of jaundice, urine loaded with bile and stools clay-colored. The question of operation was ever in my mind, but there was also the hope that the stone would be released and the woman, now only six weeks from her full term, be relieved from her child and then be in good condition for operation. She had probably passed a dozen calculi before and I hoped that she would pass this one. She died the evening of the 27th, the fifth after the attack and the third after beginning of jaundice, and all through the pain, while not excessive, was continuous and everything was thrown from the stomach. After death, with DOCTOR HITCHCOCK present, I made an autopsy, although not a complete one, and found, as you see, the gall-bladder filled with stones, and two so firmly fixed in the common duct that they were removed only by cutting directly down upon them through the duct. On account of the liver being so pressed upward by the large uterus I found great difficulty in bringing the gall-bladder into view, although it could be felt in the depths. At the time I felt that on account of the depth of the gall-bladder and its attachments by inflammatory adhesions an operation would have been exceedingly difficult in this case, but in general I do not believe that waiting so long was good practice, and when instead of relief, after three days, jaundice became marked and the patient was growing weaker, I should have been bold and given her the benefit of an operation.

REMOVAL OF OVARIES, TUBES AND UTERUS.

A WOMAN, aged thirty years, was infected with gonorrhea three months ago. Today, after freeing the omental and intestinal adhesions, I removed the ovaries, tubes and uterus in one mass, by abdominal section. I worked from left to right across the pelvis, ligating first the left ovarian artery, then the left uterine, then after freeing the cervix I ligated the right uterine and finished by ligating the right ovarian artery. To prevent postoperative adhesion, I packed the pelvic cavity loosely with iodoform gauze, bringing the end out into the vaginal passage for easy removal. There was an abscess in each ovary. In freeing them some pus was spilled out upon the towel which protected the abdominal cavity. The operation was done this morning. This evening her temperature is 99.2° Fahrenheit, pulse 80. My warrant for presenting this report is the beauty of the specimen and opportunity to show tubes removed exactly three months from time of infection.

PRACTICE OF J. HENRY CARSTENS, M. D.

EXCISION OF GANGRENOUS INTESTINE.

THIS is a part of the intestine removed from a man aged forty-six years. For one year and a half he has had trouble within the abdomen, and has been unable to work, although he has been around. He has been trying all kinds of remedies but without avail. One week ago he suddenly became very much worse, with severe pain between the umbilicus and the ensiform cartilage, accompanied by some vomiting. He required large doses of morphine to relieve him. For a few hours the pain would lessen, and then it would recur. His bowels could only be moved with great difficulty with the aid of cathartics and enemas. When he was taken with this last severe pain he called in DOCTOR HILLIER, of Leamington, Ontario, who recognized some fullness in the upper part of the abdomen. He suggested a celiotomy, and brought the patient to me at Harper Hospital. I found on examination an illy-defined tumor in the region of the spleen, the nature of which I could not make out. I had him prepared for an abdominal section, which was performed last Thursday afternoon. An incision was made three inches long above the umbilicus, and on exploration with the finger a swelling was felt to the left side. It was found to be an intestine adherent to the back, and was gradually loosened and brought out. There was a spot two inches in diameter which looked a greenish-gray and which was gangrenous, and the mesentery at this part was very thick and infiltrated, looking as though it might be malignant. A good margin on each side of the diseased intestine was removed, making the piece about fifteen inches long, a Murphy button introduced, and the abdomen closed in the usual manner. The man rallied well from the operation, passed some water, but about fifteen hours later the urine ceased to flow, and he went into a gradual stupor and died forty hours after of uremic coma, in spite of all our efforts. There was venous stasis and very great hemorrhage everywhere, and this could be controlled only with the greatest trouble, so that the operation was a very tedious one, taking nearly two hours, which was undoubtedly the cause of the comatose condition. This case simply teaches this one lesson: Here was a man ailing for a year and a half. He had consulted more than a dozen physicians, and none of them diagnosticated the affection. This man could have been subjected to an exploratory celiotomy a year ago, and undoubtedly the condition might have been easily remedied and his life been saved.

CYSTIC KIDNEY CONTAINING STONE.

A WOMAN aged fifty-eight years, the mother of four children, first noticed, thirty-three years ago, a little swelling in the left side which never caused any particular trouble, and which evidently was a loose kidney. Nearly a year ago, as the result of some fall, she noticed an increase in the size of this growth, and it has continued to develop ever since. Since three months, however, it has grown very fast, and on examination a tumor was found six inches in diameter, nearly round, starting from the lower end of the rib and reaching nearly to the pelvis and the umbilicus, extending across the median line toward the right side. It might be spleen, pancreas, kidney, tumor of the mesentery, et cetera, but the probability was that it was a kidney. She never had any symptoms pointing to renal calculi, inflammation of the bladder, or anything else indicating kidney affection. I operated last Friday. An incision was made at the left outer edge of the rectus muscle from the ribs downward, the peritoneal cavity opened, and the abdomen explored with the finger. The tumor was found to be back of the peritoneum, evidently a kidney. The peritoneum was closed and a transverse cut made downward between the ribs and the ileum, about two and one-half inches. The tumor could now be easily shelled out, but as it contained a great deal of fluid, in order not to increase the wound it was tapped, and about a quart of fluid removed from a number of cysts. The remaining kidney and cysts could now easily be removed, the ureter and blood-vessels tied and the operation finished. A small gauze drain was left in to insure safety. The patient's temperature and pulse registered a little above normal. She has progressed very well, only manifesting an irritable condition of the stomach which persisted for forty-eight hours, but has been followed by a voracious appetite.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, APRIL 20, 1899.

THE PRESIDENT, ROBERT H. HONNER, M. D., IN THE CHAIR.
REPORTED BY WALTER J. CREE, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR BURDENO read a paper entitled "The Tongue in Disease." (Se page 415.)

DOCTOR KNILL: I do not think I could go as far as the doctor and show tha the appearance of the tongue is indicative of any particular disease. The coat ing on the tongue increases according to the severity of the disease. Man diseases give a similar appearance to the tongue. Muscular tremor shown in different diseases may show that the nervous system is highly affected.

Doctor Weitz: The condition of the tongue does not always indicate any particular disease; neither does it always indicate the condition of the gastro-intestinal tract. The tongue is merely confirmatory in diagnosis.

Doctor Aaron: A coated tongue is due to the absorption of toxins and this is proved when cathartics are given, as they remove the poisonous agents. Personally I pay very little attention to the tongue.

Doctor S. E. Sanderson: I believe that a study of the tongue will aid us in diagnosis. There is no pathognomonic tongue excepting in scarlet fever.

Doctor Carrier: I do not think much of the tongue as an indicator of disease. There is nothing in the appearance of the tongue pointing to the therapy of disease. I have noticed that a smarting, burning tongue is an indication of the gouty diathesis.

REPORT OF CASES.

PRACTICE OF FRANK D. SUMMERS, M. D.

REMOVAL OF PUS TUBE AND CYST.

A woman, aged ninteen years, unmarried, menstruation regular but painful, appetite good, bowels regular, excessive leucorrhea, backache, pain constant in left iliac region, no fever, worked up to the day of her first visit to me, May 13, 1896. Her sickness began about three years ago, at the time of a gonorrheal infection. Upon examination I found a large mass to the left of the uterus, which I diagnosed as a left pus tube and advised her to enter Saint Mary's Hospital at once for an operation, which she did. I made the usual preparation and operated May 16, 1896, through the median line of the abdomen and found the large left pus tube which I exhibit here this evening. I closed the abdominal wound in my usual manner of suturing, leaving in a drainage tube for the first thirty hours. She made a good recovery and returned again to her work, but still there remained a small opening at the point where the drainage tube was removed that would not close by local applications. I advised her again to enter the hospital and have this wound reopened, to which she agreed. I operated last Tuesday, just eight months after the first operation, and found that the stump of the left tube had attached itself to the abdominal wound in such a manner that a probe introduced through the former opening would pass directly through the Fallopian tube, which accounted for the periodical or monthly discharge of blood through this abdominal sinus. After removing this portion of the tube, which was about one inch in length, I turned my attention to the abdominal cavity for further complications and to my surprise I found a cyst of the right broad ligament, which you can see is about the size of a large orange. I removed this cyst and washed out the cavity with a six per cent. chloride of sodium solution and closed the abdominal wound in the usual manner, leaving in place a glass drainage tube for the first twenty-four hours. The following is the nurse's report of her daily temperature since the operation:

Tuesday, . . .	A. M., 98°	P. M., 99°
Wednesday, . . .	A. M., 98°	P. M., 98.6°
Thursday, . . .	A. M., 98°	P. M., 98°
Friday, . . .	A. M., 98°	P. M., 99.2°
Saturday, . . .	A. M., 98°	P. M., 99.6°
Sunday, . . .	A. M., 98°	P. M., 98°
Monday, . . .	A. M., 98°	P. M., 98.2°

TRANSLATIONS.

FRENCH LITERATURE.

TRANSLATED BY E. H. McCALLUM, LANSING, MICHIGAN.
CLERK IN THE OFFICE OF THE MICHIGAN STATE BOARD OF HEALTH.

ON THE PATHOGENY OF THE GASTRO-INTESTINAL INFECTIONS OF YOUNG CHILDREN.

BY P. NOBÉCOURT, PARIS, FRANCE.
ANCIEN INTERNE-LAUREAT DES HOPITAUX DE PARIS; CHEF DU LABORATOIRE DE L'HOSPICE DES ENFANTS-ASSISTES.

[*La Semaine Medicale*, Paris, May 17, 1899, Pages 169-173.]
[CONTINUED FROM AUGUST NUMBER.]

II.

IF, as we have seen, the study of the agglutination of the intestinal coli bacilli, by the serums of the patients in greater part of the cases, is powerless to teach us the role of these coli bacilli in the gastro-intestinal infections, there is another question which this process may aid in elucidating: it is that of the coli bacillary races which are found in the acute infections of summer. These redoubtable infections, contagious, occurring during the hot season and attacking a large number of children, take the form of an epidemic malady. It is then legitimate to ask if they do not arise from the same germ.

The question would be simple if in these infections of epidemic characteristics a particular germ was found in a manner specific, analogous to the bacillus of EBERTH for typhoid fever or to the vibrion of KOCH for Asiatic cholera. Unfortunately there is not anything of the sort: it is the saprophytic species alone which we can incriminate: it is possible to find them all there, seeing that BAGINSKY[1] has described nineteen kinds in cholera infantum. Those which are most often found are the coli bacilli (LESAGE, ROSSI-DORIA,[2] GREENE-CUMSTON, et cetera), the streptococci (ESCHERICH), the proteus (W. BOOKER[3]), et cetera, germs sometimes isolated, but ordinarily coexistent in more or less great numbers.

The nonexistence of a special agent does not necessarily follow from these statements. The differences in the species incriminated may result from the remoteness of the countries in which the observations have been gathered. One may readily conceive that these infections, constituting the local epidemics, and not the great pandemics, like la grippe, the cholera, et cetera, may be due to divers germs and, for each locality, result in the revivification of a saprophyte of some kind. In this hypothesis, it might be that this saprophyte had acquired particular qualities, belong to a special race, and possess, consequently, a certain specific character. Is it thus for coli bacilli? Does there exist in the acute enteritis of summer, a particular race of coli bacilli, individualized by characteristics sufficiently clear to admit of making of these coli bacillary infections a disease apart, sufficiently isolated in the nosographic list?

To admit the existence of such a race one cannot base on either mobility, morphology, characteristics of the cultures or virulence. What we have said previously on this subject, dispenses with the necessity of repetition. According to these reports, the coli bacilli of the acute intestinal infections do not differentiate in any degree from the habitual coli bacilli of the intestines.

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[1] Baginsky. Uber Cholera Infantum. (*Arch. f. Kinderheilk.*, XII., p. 1).

[2] Rossi-Doria. Uber einge durch des Bacterium coli commune an Kindern hervorgerufene Diarrhöen mit Epidemischen Charakter. (*Centr.—Bl. fur Bakteriol.* ler Oct., 1892, p. 458.)

[3] W. Booker. A study of some of the bacteria found in the fæces of infants affected with summer diarrhea. (*Trans. Amer. Pediatr. Soc.* 1889.)

But the discovery of the phenomenon of the agglutination of the microbes by the specific serums, and the applications which were made of it in the diagnosis of microorganisms of neighboring kinds, have permitted the undertaking of new researches.

Gruber and **Durham**, utilizing diluted serums, following the process described by **Bordet**, have shown that one can, by means of serums of animals immunized against the choleric vibrion or the typhic bacillus, differentiate the vibrion of **Koch** from pseudo-choleric vibrions which exist in the waters and in the fecal matters, and the bacillus from among the divers coli bacilli or paracoli bacilli. Their conclusions have been confirmed by the researches of **Pfeiffer**, **Kolle** and **Vagedes**.

Nevertheless, this process had not entered in the usual practice, because, according to the theory current at that epoch, it necessitated the employment of serums of immunized animals. It became generalized, when **Widal** had shown that the agglutination is a reaction appearing from the period of infection, for it is more easy to render the animals sick than to immunize them, and that he had, with **Sicard**, established the rules to follow for the sero-diagnosis of the microbes. These authors[1] have shown that, to compare, from the point of view of agglutination, two microbes of similar species, one must not rely solely on the verification of agglutination but make exact mensurations of the agglutinative power. To say that the same serum agglutinates or does not agglutinate two microbes of similar species is, for the practice, an incomplete expression. Agglutination has its rules; the proportion of serum to mix with the bouillon, the process to employ in putting the serum and the microbes in presence to examine, are so many important factors to be precisely stated, and vary according to the microbes to be differentiated. The role of the experimenter is not to search only the conditions in which the same serum agglutinates in a manner, nearly identical, two microbes of similar species, but his role is above all to look for the conditions in which the agglutination differs and may furnish a process of differential diagnosis.

In applying the method of mensuration of the agglutinating power, **Widal** and **Sicard** have shown that the different samples of the Eberth bacillus, whatever may be their production, are agglutinated at an analogous rate by the same typhic serums. The differences which exist between them are too small to be taken into account in the practice. The sero-reaction, as regards the Eberth bacillus, has then a most clear, specific character.

If on the contrary we put in presence of a typhic serum a coli bacillus or a paracoli bacillus, we show marked differences between the rates of agglutination for the Eberth bacillus and for these divers samples. There is, then, a distinctive characteristic of which these authors have availed themselves to differentiate the bacillus of the psittacose from the Eberth bacillus.

Similar results have been obtained for the choleric vibrions with the serums of the infected. In studying the sero-diagnosis of cholera, **Achard** and **Bensaude**[2] have seen that the samples belonging to the ordinary type of the vibrion of **Koch**, such as **Pfeiffer** has defined it by means of the phenomenon which bears his name, alone allow themselves to be agglutinized by the serum of those affected with cholera. On the contrary, the vibrions which differ from them—those of **Metchnikoff**, of **Finkler** and the vibrion of **Massaouah**—are not agglutinated. We agree with **Mr. Widal** and **Dunbar**, on the other hand,[3] that the choleric vibrion is never agglutinated by the serums prepared with the acquatic vibrions and inversely. So then, for the differentation of the Eberth bacillus and of the coli bacilli, of the choleric vibrions and of the similar vibrions the results agree, that the serums of the immunized or of infected be employed. For these microbes the agglutination constitutes a precious characteristic of identification or of differentiation.

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[1] **Widal et Sicard.** Differenciation du bacille typhique et du bacille de la psittacose par la réaction agglutinante. (*Compt. rendus le la Soc. de biol.* 28 Nov., 1896, *Semaine Médicale*, 1896, p. 488, et *Ann de l'Inst Pasteur*, 1897, p. 387 et 390.

[2] Achard et Bensaude. Séro diagnostic du cholera Asiatique. (*Presse* med., 26 Sept., 1896, p. 504 et *Semaine Médicale*, 1897, p. 151)

[3] Dunbar. (Neuviéme Congrès international d'hygiene et de démographie, Madrid, avril, 1898.)

Researches of the same order have been made for the coli bacilli. Experimentally DURHAM[1] has seen that the serum of an animal immunized by a sample of coli bacillus agglutinates that sample, but does not agglutinate, or only feebly agglutinates, other bacilli. With the serum of infected animals, ACHARD[2] has made an analogous verification, by utilizing only the dilutions of serum and of culture at one per ten. But these verifications were insufficient because the normal serums can give the same agglutination. With MR. WIDAL[3] we have pushed the analysis of facts further and we have shown, by exact mensurations of the agglutinative power of the serums, "that the different samples of coli bacilli taken from man healthy or sick, notwithstanding their similarity, are often completely distinct." The sero-reaction has enabled us to characterize the paracoli bacilli isolated in the pus of a suppurative thyroiditis and to give it a place apart in the group of paracoli bacilli, alongside of the bacillus of the psittacose and of the bacillus of the septicemia of calves. Basing on these facts, we asked ourselves if the agglutination would not permit us to isolate from the midst of the confused group of the coli bacillary infections some types more frequently observed in clinics, arising from a special variety of these same organisms.

M. LESAGE[4] believes he has solved the question affirmatively for the acute gastro-intestinal infections of summer in young children. He affirms that in forty cases where the serum of the infants agglutinated the coli bacillus of the stools of the same infants "the serum of these forty infants agglutinated besides the thirty-nine bacteria coli of the thirty-nine other infants attacked by the same malady." Then he immunizes a horse with a good toxin secreted by these coli bacteria and obtains "a serum which is special to them, and which agglutinates all the forty coli bacteria positive on one hand, and ninety-three other bacteria coli coming from one hundred and thirteen infants attacked by the malady," whereas the serums made with bad toxins have no agglutinating property. "From all these facts," says MR. LESAGE, "one is authorized to think that all these coli bacteria of the enteritis of nurslings belong to a same particular race, much more important and more stable than the divers classic reactions."

These interesting researches confirmed then the value of agglutination for the diagnosis of the microbian races, permitted distinction of the common coli bacilli of the intestine, a race specific to the acute gastro-intestinal infections of young children, and made possible, as a very natural deduction (although the writer did not make that deduction), the sero-diagnosis of these infections, since all these infectious bacteria coli were agglutinated by nearly all the serums of the children attacked by the malady. But to give all their value to these conditions, it was necessary to verify them by applying the method of mensurations of the agglutinative power, mensurations of which MR. LESAGE does not speak in his communication.

To this end we have inoculated rabbits and guinea-pigs with living cultures of a certain number of samples of coli bacilli isolated in acute gastro-intestinal infections of summer, until the appearance of an agglutinative power more or less high from their serum for the pathogenic sample, and at this moment we have studied comparatively the action of these serums on the other samples. We have seen[5] that the serums, which agglutinate the coli bacillus with which they have been prepared at one per one hundred, one per three hundred, one per five hundred, one per one thousand, et cetera, have not acquired the power to agglutinate other coli bacilli isolated in analogous infections, at the same time and in the same place. If occasionally one finds this agglutination, it exists at a rate very inferior to that of the agglutination of the pathogenic microbe, which excludes all comparison.

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[1] Durham. On a special action of the sernm of highly immunized animals. (*Jour. of Path. and Bacteriol., juillet*, 1896.)

[2] Achard in Bensaude. (*Loc. cit.* p. 196.)

[3] Widal et P. Nobecourt (*Loc. cit.*).

[4] Lesage. (*Semaine Medicale*, 1897, p. 383.)

[5] P Nobecourt. (*Loc. cit.*)

So then, the coli bacilli of acute gastro-intestinal infections of summer in young children present from the point of view of agglutination by the serum of animals infected by aid of living cultures, differences as characteristic as the coli bacilli coming from different sources on which we with **Mr. Widal** have experimented. The study of agglutination permits us to make of these coli bacilli a special group, a race peculiar to these infections. Moreover, **Escherich**, in the three cases where he observed the agglutination of the coli bacilli of the stools by the serum of the patients, noted equally that the serums agglutinated only the coli bacilli of the subject submitted to the experiment.

Without doubt, the coli bacilli which we have studied coexisted often with other microbes in the intestines of our patients, notably the streptococci. But these being generally few in number, it was not a question of streptococcical enteritis analogous to that which **Escherich** has described, for the coli bacilli predominated. Besides in order that there be infection by a special microbe it is not necessary that that microbe be found in the intestines in a state of pure culture: typhoid fever and cholera prove this. If, however, this condition of pure culture were necessary in order that there be infection by a special race of coli bacilli, this would only rarely intervene. **Greene Cumston**, out of twelve cases of [summer] diarrhea found the coli bacilli in pure culture only three times; in the other cases there were also streptococci. Of the twenty-eight cases related by **Lesage** in his article, *Treatise des maladies de l'enfance*, eighteen times the coli bacterium was nearly in a state of purity (some rare streptococci and the bacillus mesentericus were also found) and, in the other patients the coli bacilli formed only two-thirds or the half of the microbian flora; of seven hundred and seventy cases, observed from 1888 to 1898, the same author found only two hundred and ninety-seven where "the intestinal center contained only and in pure culture, coliform microbes." Can one explain, as will **Mr. Lesage**, the contradictory results of his researches and of ours, by the fact that he has studied the agglutination "by the aid of the antitoxic serum (obtained by inoculation by doses, repeated and progressive, of the active toxin of one of these coli bacteria)" and not "by the aid of a so-called preventive serum (obtained by the inoculation of microbian matters)?"

We will first call attention to the fact that we did not preoccupy ourselves to know whether the serums utilized in our experiments were preventive or not. We limited ourselves to infecting the animals, and it is in the course of these experimental infections that we have sought for the agglutination: our animals were sick, they often presented abcesses, became thin and even finally died. And, in effect, in our anterior researches with **Mr. Widal**, we have shown "that the different qualities acquired by a serum in the course of the infection, while seeming to march in pairs, enjoyed a relative independence * * * that the preventive properties, antitoxic, bactericide, agglutinative and even the property of transforming the granules *in vitro*, often coexist, but may be dissociated in the same serum. We[1] have been able to immunize mice against the Eberth bacillus by injecting into them the urine of typhics, without the power to agglutinate this bacillus appearing in their serum. The first researches of **Mr. Lesage** confirmed, moreover, ours. "The agglutinative physical reaction is the indication of a reaction of the organism against acute intoxication. * * * That reaction is independent of the reaction of immunity, for the serum may, during the course of the immunization of the animal, possess the agglutinative property and not yet have acquired the property of immunity."

Again, in comparing the agglutination obtained by the aid of serums of animals infected by a coli bacillus or having received injections of toxins from this bacillus, we have seen that the results were identical. The serum of a guinea-pig submitted to repeated injections of toxins from this same coli bacillus agglutinated the coli bacillus producer of this toxin at one-one-hundredth and did not agglutinate at one-thirtieth other coli bacilliary samples.

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[1] Widal et Nobecourt. Dissociation de la propriété immunisante et de la propriété agglutinante. (*Compt rendus de la Soc. de biol.*, 31 Juillet, 1897, et *Semaine Médicale*, 1897, p. 295.)

Consequently, basing on the general laws of agglutination and on our own researches, it seems to us legitimate to maintain our first conclusions. Agglutination does not admit of the characterization of a race of coli bacilli peculiar to the acute gastro-intestinal infections of summer, in young children.

III.

Bacteriological study of the contents of the intestines in the gastro-intestinal infections show there, in most of the cases, alongside of the coli bacilli, other microbian species in more or less great numbers. The fact, frequent in the acute infections, is, so to speak, the rule in the subacute and chronic infections.

Being given this proof, one may ask if the microbian associations do not here play a certain role. Although this proposition has at different times been brought to notice, continued-researches have not yet been undertaken to establish the reality. We have shown,[1] however, by experimentation, aprópos of a patient in the practice of **Professor Hutinel**, that the inoculation of guinea-pigs with a mixture of the coli bacillus and of the bacillus pyocyanic, isolated from the stools, determined death in doses where each one of these microbes separately was inactive; in this case it was legitimate to attribute an active role to the association.

To establish the existence of a microbian association, one should not, in effect, limit himself to showing the presence of several kinds of bacteria in the fecal matters. A varied microbian flora is not special to pathological conditions: the same variety may be observable in normal stools. It is of consequence to distinguish the simple *coexistence* of the microbes from their *association;* in the first case, they vegetate side by side, influencing each other more or less reciprocally, but without detriment to the organism which carries them; in the second case, their alliance is effective and their efforts unite to create the malady. It is necessary, then, first of all to study if the kinds which one finds are more noxious associated or isolated and then, this point once established, to determine in which conditions is created an association which is pathogenic for the organism.

Among the microbian species which are most frequently found in the intestine, beside the coli bacilli, the streptococci occupy the first rank; their presence is almost constant in the acute as well as the chronic infections; **Marfan** and **Marot**[2] have insisted on their role in the secondary infections of dyspeptics. One is then authorized to admit that the strepto-coli bacillary association plays an important role in the pathogeny of the gastro-intestinal infections, or at least of certain forms of those infections. **Mr. Hutinel**[3] is of this opinion, so far as concerns the cases of acute entero-colitis with grave accidents (dry cholera) which he has recently described, and the chronic, cachectic gastro-intestinal infectious causes of a part of the cases of infantile atrophy grouped by **Parrot** under the name of athrepsia. But these streptococci, as well as the coli bacilli, equally form part of the normal flora of the intestine; we have found them seven times in eight. We must not limit ourselves to proving the presence of these two microbes to establish the existence of an association; the plan of studies which we have indicated, should be followed.

We have sought to convince ourselves of[4] whether the association of these coli bacilli and streptococci isolated from the stools possessed pathogenic properties. In inoculating a mixture of cultures of these two microbes under the skin of guinea-pigs, we have found that the melange determined the death of the animal in doses where these microorganisms, separately, remained without effect. This association is not, however, always active; there are cases wherein the experiments remain negative. These differences seem to depend in a certain measure on the samples associated, for one may find a whole series of facts positive or negative, by associating such or such coli bacilli to divers streptococci, and inversely. Another point interesting to note, is the manner in which the guinea-pigs die. If we examine the subcutaneous edema at different times, there is gradual disappearance of the streptococci and the predominance of the coli bacilli, although these latter have always been inoculated in smaller doses than the former. With the blood from the heart, at autopsy, most often only pure cultures of the coli bacilli are obtained; rarely there are also a few streptococci. The streptococcus, on the whole, has exercised only a passing local action; it has permitted the coli bacilli to multiply and become sufficiently, numerous to realize the infection by attracting to itself all the activity of the organic defense.

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[1] P Nobecourt. Sur un cas d'infection intestinale à bacilli pyocyanique chex le nourrisson. (*Bull. med.*, 21 aôut, 1898, p. 295.)

[2] Marfan et Marot. Infections secondaries dans la dyspepsie gastro-intestinale chronique des nourrissons. (*Rev. mens. des mal. de l'enfance*. aout, 1893.)

[3] V. Hutinel. Entérocolites aiguëssavec accidents graves chex les enfants (cholera sec.) (*Semaine Médecale*, 1899, p. 25-30.)

[4] P. Nobecourt. Association streptocolibacillaire chez le cobaye. (*Compt. rendus de la Soc. de biol.* 28 Janvier, 1899 et *Semaine Médicale*, 1899, p. 37.)

The animal is dead of coli bacillary and not of mixed infection. There is a case of microbian symbiosis analogous to those which VAILLARD and ROUGET have signaled, VINCENT for tetanus and BESSON for septic vibrion. Moreover, the coli bacillus isolated from the animal, has not in general acquired more marked virulent properties.

In short, in order that the association be active, it is necessary to mix the cultures of the two microbes; inoculated in similar doses at separate points, they remain without effect. This modality of the infection in the guinea-pig seems to result from the reactive animal itself. If the experiment is made on the rabbit we find on the contrary, the same as MESSRS. WIDAL and F. BESANCON[1] have seen in associating coli bacilli and streptococci of the normal mouth, the appearance of an erysipelas; in the rabbit there is then no more production of a coli bacillary, but of a streptococcic; nevertheless, the facts which we have observed in the rabbit are less clear and less conclusive than in the guinea-pig.

Experimentation shows that the association of coli bacilli and streptococci from the stools possess a particular pathogenic activity. It seems legitimate, therefore, to admit that it plays a part in the pathogeny of gastro-intestinal infections of young children. It is important to try and point out this role precisely.

Seeing that in our experiments, we have verified sometimes active and sometimes inactive associations, one may ask if there is not a connection between the verification of the one and of the other and the existence of an infectious or of a normal state of the digestive passage. If it were so, the question would be simplified. Unfortunately there is not any. Very virulent associations may be found with microbes isolated from normal stools, inactive associations with microbes isolated from pathologic stools: there is nothing fixed in regard to this. The existence of a virulent strepto-coli bacillary association for the guinea-pig no more characterizes the infectious states than the presence of a virulent coli bacillus. The fact is, moreover, easy to explain: in the experiments account must be taken of the number of microbes put in presence; to determine the death of a guinea-pig it is necessary to associate a half or one cubic centimeter of coli bacilli to one or two cubic centimeters of streptococci; now, we take no accoont of the existence of such a connection in the stools. The experimental method which we have employed is good to demonstrate the general role of the strepto-coli bacillary associations, but not its existence in such or such particular case. It is then necessary to look for another criterion.

Can one find this criterion in the proportions of coli bacilli discovered in the stools by the examination on plates and by seedings? Let us examine the facts which present themselves to observation.

There are cases wherein the streptococci predominate in the stools in such a notable manner that they exist there in a state of almost pure culture, having replaced the other bacteria and even the coli bacilli. It is a question then of streptococcic infections, on which W. BOOKER,[1] ESCHERICH[2] and his pupils, HIRSCH[3], LIBMAN,[4] SPIGELBERG[5], and recently THIERCELIN[6] have insisted, and of which the reality obtrudes, although it be not necessary to admit, with these authors, the existence of a special streptococcus, *streptococcus enteritis* (ESCHERICH) or *enterocoque* (THIERCELIN).

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[1] F. Widal et F. Besancon. Endocardité vegétanté expérimentale par un streptocoque d'origine salivarie sans traumatisms valvulaire. (*Semaine Médicale*, 1895.)

Our general knowledge of the streptococci necessitates, in fact, caution in this connection; we know how little value the successive distinctive characteristics proposed have; and, for our part, we have never found in the stools of our patients, streptococci which presented clear differential characteristics. But the cases where the streptococci predominate are relatively rare; we have observed only a small number. More often, streptococci and coli bacilli coexist in variable proportions.[7] It is not then just to be willing to attribute all to one of these microbes, and, after having exaggerated the part of the coli bacilli, to fall into the other extreme for the streptococci. One may think, with good reason, that often it is a question of strepto-coli bacillary association, of which experimentation has shown us the reality.

It is then, on the relative quantities of streptococci and coli bacilli, in the direct examinations of the stools and in the cultures, that one relies to establish the existence of this association. Nevertheless these proportions have nothing special, which permits us to characterize in an absolute manner the existence of the association. In normal stools one can find, although much more rarely, the same variations. But it would be necessary in this case, by repeated observations on the same subject, to seek whether the fact of the coexistence, in notable proportions, of these two germs, do not indicate predisposition to the gastro-intestinal infection. However, an element which must be taken into account in the interpretations of the bacteriological examinations of the stools, is, that the germs do not exist there in the same proportions as at the level of the superior parts of the intestine. Perhaps in the slender intestine these proportions are of a nature to render more easy the characteristic of association.[8] Experimentation on the guinea-pig has shown us that, in the strepto-coli bacillary association, the streptococcus, which at first predominates, finishes by disappearing, leaving the place to the coli bacillus. Evidently one cannot conclude certainly from that which one observes in the subcutaneous cellular tissue as to that which passes in the cavity of the intestine. But it is at least permissible to reason by analogy. It is possible that at a given moment the streptococci are carried in sufficiently great numbers by the milk[9] or by the deglutition of saliva, of nasal or pharyngeal mucus, which would be charged with them, or that the special conditions favor their pullulation in the intestine. From the fact of this augmentation of the number of streptotocci, an associative action is created and the gastro-intestinal infection is realized. But by following the particular characteristics of the strepto-coli bacillary symbiosis, the streptococci become less numerous and may even disappear; the coli bacilli then dominate or exist alone in the stools. Our experiments on ingestion by the gastric way do not permit us to express our conclusions with certainty. But this hypothesis agrees with the facts observed by **METCHNIKOFF**[1] in intestinal cholera; he communicates the cholera to young rabbits by making them ingest the vibrions and cultures of a favorable microbe; in the stools this favorable microbe disappears; the vibrions predominate; the association has, nevertheless, been necessary to create the infection.

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[1] W. Booker. A bacteriological and anatomical study of the summer diarrheas of infants. (*Johns Hopkins Hospital Reports*, 1896, VI, p. 159.)

[2] Escherich. (*Loc. cit.*)

[3] Hirsch. Ein Fall von Streptokokken-Enteritis im Sauglingsalter. (*Centr.-Bl. f. Bakteriol.* m12 oct., 1897, p. 369.)

[4] Libman. Streptococcus enteritis; a study of two cases. (*Med. Record*, 5 mars, 1898.)

[5] Spigelberg. Ein witerer Beitrag. zur Streptokokken-Enteritis in Sauglingsalter. (*Centr.-Bl. f. Bakteriol.*, 30 juillet, 1898, p. 49.)

[6] Thiercelin. Sur un diplocoque saprophyte de l'intestin susceptible de devenir pathogenè. (*Compt. rendus de la Soc. de biol.*, 15 avril, 1899, p. 269, et *Semaine Médicale*, 1899, p. 144.)

[7] Il en est, d'ailleurs, ainsimdans un certain nombre des observations d'Escherich.

[8] Nous avons pu constater, dans quelques cas, au niveau de l'intestine gréle, des coli bacilles et den streptocoques ennombres a peu près égal; dans le gros intestin, des coli bacilles prédominant de beaucoup sur les streptocoques.

[9] Au mois d'aôut, dernier, nous avons constaté, dans trois échantillons de lait stérillise a l'appareil de Soxlet, l'existence d'une culture pure de streptocoques.

We hold then, that it is necessary to keep strict account of the strepto-coli bacillary association in the pathogeny of the gastro-intestinal infections in young children. Many facts hitherto obscure might there find their explanation.[2] We should not, however, generalize too much. All gastro-intestinal infections do not originate in a strepto-coli bacillary association. It is evident that in the infections where the coli bacilli in a state of purity are found only in the stools, or a very great number of streptococci, of proteus, of bacilli pyocyanic, et cetera, it is to these microbes that the essential role must be attributed. We believe, nevertheless, that many acute or subacute infections, and perhaps above all chronic infections, arise from strepto-coli bacillary association; with **MR. HUTINEL**, we estimate that very many cases of athrepsia, of caehexia, combined with a chronic gastro-intestinal infection should be attributed to them; however, in these conditions the associations are perhaps often more complex.

IV.

In fact alongside of the strepto-coli bacillary association, many others exist. We have already spoken of the association of the bacterium coli with the pyocyanic bacillus. Our researches on the association of the coli bacillus and the bacillus mesentericus show that the inoculation of a mixture of these two germs into a guinea-pig determines a symbiosis of the same order as the strepto-coli bacillary association and which leads to the same considerations. This verification is interesting, because the spores of the bacillus mesentericus resist at 100° and are found in milk sterilized at that temperature. Nevertheless we do not think that this has a general importance, because it is relatively rare to find this bacillus in the stools. A few experiments authorize us to believe that the association of the coli bacillus, and of the proteus is also active, but we cannot yet particularize its mechanism. If the activity of the proteo-coli bacillary or strepto-proteo-coli bacillary association were demonstrated, it might play an important role in the chronic gastro-intestinal infections, because in such case these three germs often coexist in the stools.

More precise observation of the facts will admit of elucidating more completely the question of the pathogeny of the gastro-intestinal infections of young children. The coli bacilli should, then, have some consideration, but nothing demonstrates this in a peremptory manner. Whatever their role may be, they do not act as mercenary agents, and do not acquire at any moment peculiar characteristics which permit the isolation among them of a particular race to aid in our procedures of actual study. This role, however, they seem to owe only to themselves. Their association with other germs, especially to the streptococcus, seems to be one of the principal conditions of their pathogenic properties. The importance of the strepto-coli bacillary association should draw attention in a very particular manner.

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[1] Metchnikoff. Researches sur le cholera et les vibrions: l'immunite et la sur receptivite vis a vis du choléra intestinal. *Ann de Pasteur*, 1894.

[2] Il est probable que les considerations que nous venons de developper ne s'appliquent pas uniquement aux infections gastro-intestinales des jeunes enfants. Dans l'appendicite, par exemple, on note souvent la coexistence de coli bacilles et de streptocoques. Peutetre, ens condant sur nos experiences. trouverait—on l'explication de la coexistence, notie par plusieurs anteurs de l'appendicite avec la grippe et diverses maladies generales—Motta Coco (*Gazz. degli Osped.*, 23 janv. 1898) attribue egalement a l'association du coli bacille et du streptocoque on du staphlocoque une forme speciale de fievre intestinale, contractee par des soldats en Afrique.

[CONCLUDED.]

EDITORIAL ARTICLES.

COMPULSORY NOTIFICATION OF CONSUMPTION IN MICHIGAN.

Public sentiment is now being cultivated in Michigan with respect to the compulsory notification of consumption. On the one hand is the active and aggressive State Board of Health which, at its meeting September 30, 1893, adopted the following resolution:

Resolved, That hereafter consumption (and other diseases due to the bacillus tuberculosis) shall be included in the official list of "diseases dangerous to the public health," referred to in sections 1675 and 1676 Howell's statutes, requiring notice by householders and physicians to the local health officer as soon as such a disease is recognized.

In conformity with and by the authority of this declaration, the Board of Health of the city of Detroit passed a rule requiring the reporting to that department of all cases of tuberculosis of the respiratory organs, and on March 15, 1899, instructed all physicians practicing in the city of Detroit to notify the health officer, on blanks prepared for that purpose, of all such cases within seven days after diagnosis. Failure to comply with this rule brought before the Justice Court several eminent local physicians, one of whom, acting as respondent in a test case, was ordered to pay a forfeiture of fifty dollars, the limit of the law. The defendants have since announced their intention to appeal from this decision. In the meantime the court of public opinion will sit on the case.

Without going into the charges of misunderstanding and misrepresentation of isolation for notification on the one hand and the countercharge of a scheme to erect and maintain an hospital for consumptives at state expense on the other, the general problem of consumption is of such grave importance that it seems imperative that some move be made. Whether the seven billions of bacilli, which a consumptive is estimated to expectorate in twenty-four hours, be the real and sole agent active in the spread of the disease, or whether the genuine cause has hitherto eluded discovery, are not essentially relevant questions. It is significant, however, that consumption is a dangerous disease, and that it is credited with about three thousand deaths in Michigan annually. That it is communicable also by inhalation, ingestion and inoculation, is notoriously true. We have learned to loathe and fear phthisical discharges as much as typhoid stools. Why, then, should not something be done to insure the corraling of this destructive agent? There is not the shadow of a doubt but that many persons afflicted with consumption would and do voluntarily protect themselves and others from the contamination which otherwise would result. It is as true conversely that others are as unable, either from poverty or ignorance, and some few unwilling to use sufficient precautions, either for their own sake or for others. These are the persons who constitute the greatest source of danger, and from whom protection should be secured, and the only consumptives sick that require public attention. The establishment of a state hospital is a problem by itself, but incidentally it might be asked wherein is the greater propriety, the cure of these dependents in a specially appointed sanitarium, or their care in other institutions by the more ordinary means and at present mortality rates.

There is unfortunately a misconception by some physicians and the public generally that consumption is uniformly fatal, and that but little more than temporary relief and vain hopes can be extended. For the sake of the despondent sick, if not from the performance of a Christian and professional duty, the curability of this disease should be proclaimed. Were there no other proof that consumption is curable, pathology alone has established this fact. Add to this the twenty to fifty chances for recovery according to the stage of the disease, which have followed strict hygienic and dietetic modes of treatment, and the prospect changes from a despairing hope to a life of active fruition.

PROBLEMS FOR THE MEDICAL EXAMINING AND LICENSING BOARD.

Beginning with the tenth day of October next the police authority over the practice of medicine in Michigan will reside in a new state board. The act authorizing the board gives it considerable jurisdiction affecting not only those who would be practitioners but also the various institutions in which they shall have been instructed. The first service of the board will be to determine who have been legally registered under the amended act of 1883 and who shall be entitled to re-registration according to the new law. So simple and easy has medical registration been herotofore that there will be little difficulty in determining who have been legally licensed and yet, judging by what has been done openly in this and other states, this official housecleaning will show up some rubbish for which the board can have no use. In the case of new candidates, however, there may be exhibited more arbitrary power. The fixing of a standard of requirements will devolve upon the board and, although in doing this it may and will be supposed to act independently of similar boards of other states and foreign nations as well as of the medical colleges with which it may have to do, such a standard should be erected as shall promote reciprocity with other state boards. Individuals, colleges and several associations of colleges have for long endeavored to raise the standard of medical practice and although material progress has been made through the tedious process of education the next and longest stride seems destined to be effected through the agency of the National Confederation of State Medical Examining and Licensing Boards. Through this organization there may be expected a higher average scholarship in medicine and a unanimity of requirements among the several states. In the promotion of these aims, although the finished product of medical education has been the chief object of consideration, collegiate training and preliminary qualifications have naturally been important objects of attack. In fact it has been necessary or expedient to make the first assault upon the latter rather than upon the former. At its meeting at Columbus, June 5, 1899, this Confederation adopted a minimum standard for admission to medical colleges, which is far in advance of the majority of such institutions and materially above that of any of the college associations. It recommended *"That, as far as it be vested in the discretion of the state examining and licensing boards, the rule be enforced that any college to be considered in good standing must demand as a minimum entrance requirement that the applicant possess a high school diploma or certificate issued after a four years' course of study, or attain a satisfactory grade

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(seventy-five per cent.) upon examination in the following branches, towit: orthography, English grammar, English composition, geography, rhetoric, Latin, arithmetic, algebra, geometry, physics, botany, zoology, and United States history, such examination to be conducted under the direction of the state board having the authority, by certified examiners, none of whom shall be either directly or indirectly connected with a medical college." The examination is directed to be extended in English composition to two compositions of not less than 200 words each, in Latin to two years, in arithmetic through square root, in algebra through quadratics, through plain geometry, et cetera. One year's advanced standing may be granted to holders of the degree of A. B., B. S., or equivalent degree from a reputable literary or scientific school but no mention is made of a like grant to graduates in dental surgery, pharmacy or veterinary surgery.

Although this organization is purely voluntary in character yet it is a delegate and representative body and as such its recommendations, it may be presumed, will have influence with the several state boards represented in its proceedings. It is expected that the new Michigan board will participate in realizing the aims of the Confederation.

THE DRY AND SUNNY SOUTHWEST.

THE fertile soil and rich deposits of the Michigan peninsulas are not berated nor the natural beauties of her inland and lakeside resorts o'ershadowed by the quiet grandeur of the mountain slopes. The average healthfulness and equability of climatic conditions are distinguishing features of the busy lake region and render it a desirable habitation the year round. With all these marks of advantage there are nevertheless somatic states that need at times invigorating or soothing natural influences to bring again the accustomed health. There was a time when an ocean voyage or an European trip was considered an essential means of relief from many of these conditions. Now, however, as the peculiar resources of our own national domains have been studied and experienced a change of opinion has been brought about. The climate of some of the most famous resorts for health in the old world cannot only be duplicated on the American continent but even excelled, and, being more easily reached, bid fair to a flattering patronage.

One of the newest but not less charming spots, in which nature has grouped many desirable effects, is Las Vegas Hot Springs, New Mexico, in the dry and sunny southwest. Situated in the latitude of Morocco, Algiers and Arabia in the old world and of portions of Arkansas, Tennessee and North Carolina in the United States, and having an altitude of nearly seven thousand feet on the foothills of the Rockies, it affords degrees of humidity, precipitation and temperature and characteristics of sky and winds to a most desirable extent. DOCTOR BAILEY, the local observer for the Government Weather Bureau at that place, has made extracts from the official reports which seem worthy of reproduction. They belong to the year ending May 31, 1899, and are as follows:

RELATIVE HUMIDITY.

Mean relative humidity for the year	40.82
From January 1st to May 1st, inclusive	32.7

Lowest for any one month, May	21.55
Highest for any one month, August	73.45
Lowest recorded humidity for entire year, at 8 A. M. May 4	3.
Number of days humidity recorded 20 or less	90.
Number of days humidity recorded 10 or less	30.

ABSOLUTE HUMIDITY.

Absolute humidity for last ten months of fiscal year is as follows:

	GRAINS		GRAINS
August	5.616	January	0.940
September	3.537	February	1.044
October	1.372	March	1.036
November	1.211	April	1.238
December	1.103	May	1.456
Average for ten months			1.855
Average from October to June 30, inclusive			1.175

PRECIPITATION.

Total precipitation, including melted snow, for the entire year	15.87 in.
Of this, the amount that fell in June and July, our rainy season, was	9 in.
This leaves for the remaining ten months of the year	6.87 in.
From October 1st to May 31st, inclusive	3.77 in.
From January 1st to May 31st, inclusive	1.56 in.
Precipitation in January	0.00 in.
In each of seven months of the year precipitation was less than	1 in.
Number of days during the year in which .01 in. or more precipitation fell	63
Number of days in the last nine months of this fiscal year in which .01 in. or more precipitation fell	31
Number of days in which .01 in. or more precipitation fell since January 1st	14
Number of days in which .1 in. or more precipitation fell during the year	45
Number of days in which 1 in. fell	00
Amount of snowfall, unmelted, for entire year	28.35 in.
Number of independent storms during the year	87
Number of storms from October 1st to May 31st, inclusive	24
Number of storms which began in the morning during the entire year	9

It is a significant fact that most storms occur after midday, and that the mornings are correspondingly those of sunshine on stormy days.

A storm is recorded if only .01 in. precipitation fall. Several of above amounted to no more, and were of but few minutes' duration.

TEMPERATURE.

Mean temperature for the year	49.11°
Mean temperature, May to October, inclusive	61.31°
Mean temperature, November to April, inclusive	35.09°
Mean temperature for three summer months	66.64°
Mean temperature for three winter months	29.99°
This leaves an extreme difference between the average of winter and summer of	36.65°
Mean average night temperature for summer months, indicating lowest at night	52.25°
Number of days temperature reached above 90 during entire year	8

All these occurred in June and July, 1898.

At no other time during the entire year did the thermometer reach 90.

At no time did it reach 100.

Five times during the year the thermometer fell below zero. Each of these occurred during the night.

CHARACTER OF SKY.

What is called a "clear day" is when the sky is three-tenths, or less overcast.

A "partly cloudy" day is indicated when the sky is four-tenths to seven-tenths overcast.

A "cloudy day" is indicated when the sky is more than seven-tenths overcast.

Number of clear days during entire year	261
Number of partly cloudy days	83
Number of cloudy days	21
The sun shone a portion of each of the partly cloudy days, and a portion of all the cloudy days, except four, making the actual number of days in which the sun did not shine	4
Actual number of days in which the sun shone at least part of the time, one-half hour or more	361
Exclusive of the cloudy days in which the sun shone but a portion of the time, number of days of sunshine	344
Number of cloudy days from August 1st to May 31st inclusive	11
Number of cloudy days from January 1st to May 31st inclusive	6
Number of partly cloudy days from September 1st to May 31st inclusive	34
During three months of the year, number of cloudy days	0
Number of days without clouds in last nine months of fiscal year	229
Number of clear and partly cloudy days in last nine months	263
Number of days in these nine months	273
Average number of days, per month, of continuous sunshine during last nine months of fiscal year	25

PREVAILING WINDS.

Prevailing winds for entire year were from the southwest, or from a portion of the country which is dryest, and partly desert.

ANNOTATIONS.

THE SPREAD OF SCARLATINA.

Perhaps no better proof of the toxicity of the oral discharges in scarlet fever has been announced than in the foolhardy experiments described by **Stickler** in the *Medical Record**. The operator, thinking to have discovered a protective virus, inoculated ten children, varying from eight and one-half months to thirteen years old, with mucus obtained from the throat and buccal cavity of a patient who had a mild attack of scarlet fever. In each instance the genuine disease was produced with the usual symptoms and many complications. Fortunately all recovered. As the early stages of scarlatina are accompanied by profuse discharges from the mouth and nose, and as these hold the contagium, it is obvious that this period is the most infectious and the utmost care should be used not only in disinfecting these parts but also in gathering the discharges and destroying them before they shall have dried.

*Volume LVI, Number II.

THE REFRIGERATIVE TREATMENT OF MILK.

EXPERIMENTS made to remove the water from milk, by freezing it when gently agitated, have been progressing and present some interesting facts. It has been shown that eighty per cent. of the water may thus be abstracted in the form of nearly stainless crystals and without loss of solids. The expense by this method has been said to be less than by evaporation in vacuo and to leave a more valuable product. In reporting upon this subject DOCTOR MARCY remarked that, although the resultant is not perfectly sterile, the bacteria are in great measure destroyed and the condensed product will keep for weeks. The success of this method of preserving milk promises much in the solution of the problem of milk supply in cities. Not only will the article be cheaper but it will be rendered safer for use.

CONTEMPORARY.

CRIMINALS IN THE MEDICAL PROFESSION.

[SAINT LOUIS MEDICAL AND SURGICAL JOURNAL.]

THE end of the century seems to be characterized by many unusual features which vary from the grotesque to the horrible. It would seem that the unexpected is always happening, and a lack of motive characterizes human actions in a majority of the instances. This has been the case for many centuries, and no one has ever felt competent to give an adequate explanation for the facts as they exist. The *fin de siècle* is seemingly characterized by violence and brilliancy, philosophy and debauchery, science and crime. We do not propose to endeavor to give any explanation for this anomalous state of affairs, not even that of events occurring in cycles or of history repeating itself. What we wish to call the attention of our readers to is the fact of the rather remarkable number of criminals in the medical profession which have recently sprung up and become notorious. The newspapers teem with the crimes committed by medical men, and we stand aghast at the remarkable fecundity manifested by degeneracy. These crimes vary from swindling and stealing to murder, accompanied by more or less brutality. And when we speak of the medical profession we include medical students who are yet but neophytes in the art of medicine, but too often adepts in villainy and crime.

To the physician who pursues the even tenor of his way and attends to his professional duties conscientiously, who looks upon his calling as a sacred trust, such things are not only repellant, but inexplicable. To the student of human nature, its vices and foibles, its weaknesses and temptations, it would indeed be strange did not an occasional case arise. But to the socialist and psychologist some interesting problems present themselves, and he must fain resort to the rather lame theories of MAX NORDAU, who wishes to reduce all to one general law of degeneracy; or, if he will not accept this, find refuge in the cerebral anomalies, hereditary in character, advanced by LOMBROSO. On the other hand, the advocate of the doctrine of evolution will contend that environment is responsible for physical, mental and psychic changes in the individual. The large class who observe and are not philosophers will say that evil companions will corrupt good manners. And so on *ad infinitum*.

Be this as it may, there can hardly exist any doubt that education of the right sort tends to diminish crime. The proper appreciation of moral responsibility and the inculcating of true ethics and morality, by example as well as precept, joined with industry in the proper channel and honest work, can do much to prevent crime. The medical student, at the very threshold of his career, is soon imbued with the idea that a human life amounts to but little. His teachers but too often give him that impression. As he progresses he sees experiments carried out on poor unfortunates merely for the purpose of determining whether a certain dose is safe or an operation can be supported by a patient. When this student has graduated he watches his first serious case with much anxiety. He studies hard, oftentimes passes sleepless nights, and if that patient dies in spite of his best efforts, a pang of remorse oft seizes the hapless young doctor. After a few years this feeling passes away. His patients die and he signs burial certificates with nonchalance. He has come to look upon a human life as a very small matter. *Facilis descensus Averno*—if the impulse exist and the temptation be great enough, he will kill without the least compunction. He becomes a murderer, and sleeps well after having "done a job."

Is there a cause for this unfortunate state of affairs? No doubt there is; yet it is hard to find. Is it because students do not receive a careful preliminary training, or, having obtained this, are not sufficiently imbued with the responsibility of their future calling by word and example? Are medical faculties derelict in not inquiring in a sufficiently searching manner into the moral qualifications of their students? We have not the space at our command to enter into those questions, but they are certainly of sufficient importance to deserve some little consideration at the hands of the gentlemen who are empowered to furnish the right and power to others to engage in the practice of medicine. The medical profession cannot afford to have its members looked upon askance for the crimes of certain misguided individuals, either fledglings or full-fledged; and, at the present rate, physicians will no longer be only called legalized murderers, but they will be seriously suspected of being unhung assassins.

MEDICAL (?) JOURNALS.

[CLEVELAND JOURNAL OF MEDICINE.]

THE initial number of a new medical journal recently placed before the profession contains an advertisement stating that the publishers are under contract to the advertiser to deliver 100,000 copies to as many physicians in the United States and Canada. This seems a very respectable circulation for the first year of a new publication and it shows plainly why the best class of journals is not better supported than it is. Physicians receive so many journals free of all charge, that it seems to those who are indiscriminating as to quality, to be quite useless to spend any money for medical journals. Perhaps worse than this is a statement lately come to our notice of the circulation of a so-called medical journal, that for months has been on its last moral and financial legs, claiming to have 10,000 paid subscribers! Another equally veracious statement is that of a monthly that has from 12 to 16 pages of paid advertising each month, to the effect that its advertising manager makes in commissions $10,000 a year! It would seem that medical men should have enough regard for their honor and for the dignity of their profession to leave circulation-lying to laymen. What a commentary it is upon American medicine when so-called medical journals, that are able somehow to live off the profession, resort to the basest and most dishonorable methods to secure a little money! Will the profession never wake up to this condition of affairs and put an end to this national disgrace by refusing to patronize or countenance the worst at least of these publications?

MEDICAL NEWS.

THE LATE PROFESSOR BUNSEN.

AUGUST 16, 1899, closed the career of Professor Robert Wilhelm Eberhard von Bunsen. He was born at Göttingen March 31, 1811, and graduated from the University there when nineteen years old. He became a professor in the Polytechnique School in Cassel at the age of twenty-three, was "extraordinary professor" in 1838 at the University of Marburg, and in 1852 was made professor in the University of Heidelberg, where he remained to the end of his life. His career was essentially one of investigation, discovery and invention. His studies covered a wide range, including the chemistry of arsenic, the hot blast and gas analysis, electrolysis and the electric arc, calorimetry and spectroscopy. He invented the Bunsen battery cell, a calorimeter, the well known Bunsen burner and the spectroscope, besides many other contrivances. He is credited also with having discovered the metals thalium, caesium, and rubidium. In 1883 he was elected one of the eight foreign associates of the French Academy of Sciences.

THE PLAGUE.

THE consternation in Europe caused by the continued spread of the plague has not abated. It seems rather to have increased, and with good reason. According to the *British Medical Journal* official reports of forty-four cases, with fourteen deaths, were published as having appeared in Oporto during the months of June, July and August, and in addition Lisbon, Figueira, a town near Saint Vincent, and even Barcelona, Spain, have given evidence of infection. While the epidemic itself has not been severe, the quarantine necessary and the interference in commercial enterprises has been commensurate with a more sweeping devastation.

MINOR INTELLIGENCE.

EPIDEMIC anterior poliomyelitis prevails in Poughkeepsie, New York.

AN hydropathic clinic has been established at the University of Heidelberg.

MISS FLORENCE NIGHTINGALE, who is very feeble, recently celebrated her eightieth birthday.

PROFESSOR ROENTGEN has received a call to the chair of Physical Science at the University of Munich.

THE American Association of Obstetricians and Gynecologists met in Indianapolis, Indiana, September 19, 20 and 21, 1899.

THE retirement of Lord Kelvin, also known as Sir William Thomson, from his professorial chair in Glasgow University, has been announced.

NEVADA has fifty-three graduates of medicine to a population of about forty-eight thousand. One-fourth of this number recently organized a state medical society.

YELLOW fever continues to rage in several cities of the gulf coast, and especially at Key West, where more than two hundred cases are said to have appeared.

DOCTOR THOMAS LATHROP, who has for twenty years conducted the *Buffalo Medical Journal*, has withdrawn, and the *Journal* enters upon its fifty-fifth year of publication with Doctor William Warren Potter as owner and editor-in-chief.

Sir Morell McKenzie's widow is earning her living as a modiste, and is about to raise money to live by the sale of her husband's library.

Doctor A. Duval Atkinson, Baltimore, Maryland, has been elected lecturer on diseases of children at the Women's Medical College, Chicago.

The birth rate in the United States will show a decrease of nearly five per cent. in the present decade over the decade extending from 1880–1890.

A Rhode Island jury recently decided an award of $500 in a suit for damages against a painless dentist advertiser, who failed to extract painlessly in this case.

One hundred and ninety-nine different surgical instruments have been found in the ruins of Pompeii; they are preserved in the National Museum at Naples.

The New York College of Veterinary Surgeons and the American Veterinary College, both of New York City, have decided to consolidate with the New York University.

The plague called for 317 victims out of 360 cases in Poona, India. Bangalon also reports an epidemic. Alexandria in Egypt and Hong Kong, China, report fatalities also.

Baron Henri de Rothschild, a member of the Paris branch of the famous financial family, has passed with distinction his final examination for the degree of Doctor of Medicine.

Doctors Nicholas Senn and B. D. Brower, of Chicago, recently returned from a sojourn in the Hawaiian Islands. While in Honolulu a luau was tendered in their honor by Doctors Day and Wood.

The fourth successful gastrectomy was performed by Doctor McDonald, of San Francisco. The other three cases were: Schlatter, of Zurich, Switzerland; Brigham, of San Francisco, and Richardson, of Boston.

Helen Bradford Thompson finds the total number of functional nerve cells in the cerebral cortex of the adult man, in round numbers to be nine thousand two hundred million, about eight times the largest estimate made by other observers.

By authority from the Secretary of War Surgeon General Sternberg is about to establish a general hospital at Fort Bayard, New Mexico, as a sanitarium for the treatment of officers and enlisted men of the army suffering from pulmonary tuberculosis.

The American Red Cross Society has recently drafted a new constitution which provides for a division of the United States into districts, with Washington as headquarters of the national body. Each branch will be governed by district officers who will derive their power from the general office.

The American Proctological Society, which was recently organized at Columbus, elected the following officers: President, Doctor J. M. Mathews, of Louisville; vicepresident, Doctor James P. Tuttle, of New York City. "Meus conscia recti" is the motto that has been proposed for the new guild.

The latest cure for tuberculosis is announced from Roulaix, France. Doctor Mendel poses as sponsor for the new method, which contemplates intratracheal injections of a solution consisting of eucalyptus, thymol, and cinnamic acid in a menstruum of olive oil. Sixteen patients afflicted with tuberculosis and two with simple bronchitis have been treated and marked improvement noted after a course of one week.

Commissioner Ogilvie, of the Yukon country, has appointed a local examining board to be governed by the same regulations which hold in other sections of the Dominion, allowing graduates of recognized medical schools, who successfully pass the required examination, to practice irrespective of their nationality.

Alexandria is stricken with the plague. Prior to June 9, twenty-three cases and seven deaths had been reported. Thirty cases of the malady were reported in Mauritius during the first week in July, twenty-four deaths resulting. The disease is also prevalent in the Chinese cities of Canton, San Ning, and Fat Shan, many deaths having occurred in the latter city, where shops and dwelling houses are being closed and the inhabitants fleeing for their lives, but carrying the infection with them.

The quarter centennial meeting of the Mississippi Valley Medical Association will be held in Chicago October 3, 4, 5 and 6, 1899. The occasion will be unusually attractive on account of the American Festival to be given from September 25 to October 9, which the president and several other notables are expected to attend. In addition, the medical schools of the city will give a series of clinics during the week preceding and following the meeting. The railroads from all points to Chicago give a one-fare rate for the round trip.

There has been recently established at Grosse Pointe, Michigan, near Detroit, a new private sanitarium for the special care and treatment of patients affected with mental and nervous diseases. It is admirably located upon the shore of Lake Saint Clair, from which it receives its name, The Lakeland. The institution is in charge of Doctor Samuel Bell, late Superintendent of the Upper Peninsula Hospital for the Insane, at Newberry, and a frequent contributor of medical literature along this special line. A detailed announcement regarding the new institution appears in the advertising department of this issue.

Pennsylvania State Board of Medical Examiners announces the results of their recent examinations:

COLLEGES.	NUMBER EXAMINED.	NUMBER FAILED.	GENERAL AVERAGE.
University of Pennsylvania,	143	1	86.00%
Women's College of Philadelphia,	28	0	81.22%
Medico-Chirurgical,	93	15	79.94%
Western Pennsylvania,	46	7	79.01%
Jefferson,	34	3	78.24%
Miscellaneous,	74	22	76.31%
Baltimore Medical,	7	4	72.84%
Total,	425	52	80.94%

RECENT PUBLICATIONS.

REVIEWS.

LABORATORY WORK IN BACTERIOLOGY.*

This book is a guide to the practical study of bacteriology, and is used by the author's classes in the University of Michigan. It takes up first the study of bacteria in general and their characteristics, including their life history and environment. One chapter is devoted to the microscope and its uses, and two to the various media for and the aids to the cultivation of bacteria. In other chapters are considered the relation of bacteria to disease, fungus growths, the examination of water, soil and air, and hints upon special methods of work. It is not intended for a text-book, nor for such would it suffice; but as a beginner's laboratory guide it is all that could be desired. Indeed its up-to-date character and the scientific spirit that pervades it make it a desideratum of modern medical instruction.

*By Frederick G. Novy, Sc. D., M. D., Junior Professor of Hygiene and Physiological Chemistry, University of Michigan. Second edition, revised and enlarged, with frontispiece and seventy-six illustrations. Ann Arbor: George Wahr, 1899.

HINTS IN PRACTICAL URINALYSIS.*

THIS is a handy brochure for general use in urinalysis. It is essentially a book of hints clearly expressed and properly arranged. The author has suffixed also a most concise statement of the etiology and symptoms of the principal genito-urinary diseases. Altogether it is a practical little book.

*By Charles C. Yarbrough, M. D., Therapist, Scientific Department, Frederick Stearns & Company, formerly Professor of Chemistry and Urinalysis, Tennessee Medical College. Second edition, revised and enlarged. Detroit: Frederick Stearns & Company.

EXTERNAL DISEASES OF THE EYE.*

THIS rather novel work begins with a brief but comprehensive review of the functional testing of the eye in disease, and then consists of numerous colored and half-tone illustrations of the most important external diseases of the eye. Accompanying the plates which represent them are descriptions of cases and the therapeutics used. It is an admirable work splendidly put together, and exceedingly useful to anyone who has not enjoyed the advantages of a large ophthalmological clinic.

*By Professor Doctor O. Haab, of Zurich. Authorized translation from the German. Edited by G. E. deSchweinitz, A. M., M. D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia; Consulting Ophthalmologist to the Philadelphia Polyclinic; Ophthalmic Surgeon to the Philadelphia Hospital, and to the Orthopedic Hospital and Infirmary for Nervous Diseases. W. B. Saunders, Philadelphia, 1899.

DISEASES OF THE SKIN.*

THIS volume consists of first, a brief consideration of the pathology and treatment of skin diseases, but its main purpose, which it fulfills perfectly, is the illustration of the various skin diseases that are most frequently met with. The work includes sixty-three superb colored plates and thirty-nine half-tone illustrations. The cases to which the illustrations refer are described, the treatment and results given, and in some instances the autopsies. The work is truly an atlas, and the plates would well become a volume of more pretentious size.

*By Professor Doctor Franz Mracek, of Vienna. Authorized translation from the German. Edited by Henry W. Stelwagon, M. D., Ph. D., Clinical Professor of Dermatology, Jefferson Medical College, Philadelphia; Physician to the Department for Skin Diseases, Howard Hospital; Dermatologist to the Philadelphia Hospital, et cetera. Philadelphia: W. B. Saunders, 1899.

The Physician and Surgeon

A PROFESSIONAL MEDICAL JOURNAL.

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

SOME MEDICAL MATTERS OF SPECIAL IMPORT.*

By BEVERLY DRAKE HARISON, M. B. (Toronto), SAULT SAINTE MARIE, MICHIGAN.
MEMBER AND SECRETARY OF THE MICHIGAN STATE BOARD OF EXAMINATION AND REGISTRATION IN MEDICINE.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

INTRODUCTION.

I DO not propose to attempt, in the short time allotted to the annual address by the president, to read you an essay upon some technical subject connected with our profession. This ground will be well covered by others. Consequently it is left to me to speak to you of those commonplace and everyday phases of our professional work and life connected with, yet separated from the scientific and higher and more agreeable technique of our calling; and to make necessary suggestions in connection therewith. Owing to the lamented death of the chairman of the committee on legislation, and also to our not having a committee on necrology, it devolves upon me to also take up these subjects.

At the outset I may merely call your attention to some of the advantages to ordinary practitioners, collectively and individually, of a society such as this one. It will not be necessary to enumerate them all, as these advantages are so well known to you it would be waste of time; but I may simply and briefly remind you that among other advantages to be derived from cooperation outside of the advantages gained through intercourse, good fellowship and an exchange of ideas, is the emphasized fact that in union is strength in asking, demanding, and working for civil rights and privileges. The ordinary, everyday manual laborer recognizes the advantages of cooperation, for without it legislation affecting his liberties and welfare could never have been attained. I think our medical societies, almost without exception, devote too much of their time and energies to merely what may be termed the technical side of the professional life, and neglect the material side. Consequently, when medical men go to a legislature asking for just rights and privileges, they are not backed in their demands by an organization that carries any weight with the ordinary legislator of today, who sees merit and rights only when the question is backed by an organization capable of making itself heard from at the proper time and place. I do not wish to be understood as advocating that our medical societies should be converted into political clubs, but I am strongly in favor of having a legislative committee—an active and an aggressive one at that—within every society in the state. Until this is done, legislators will turn a deaf ear to all appeals of medical men. I was first astonished at the "pull" the so-called Christian Scientists have with the members of the House of Representatives at Lansing, but when I learned that this cult devotes a large amount of its organization to attaining this, the solution was simple indeed. Their text, and the text of the so-called "independent graduates" is, "if you will remember me, then I will remember you." Would it not be well for medical men to adopt a similar motto?

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*President's address before the UPPER PENINSULA MEDICAL SOCIETY at the annual meeting at Calumet, July 6, 1899.

It was with pleasure that I noticed that our Upper Peninsula representatives were free from this influence, which suggests either that they are men of superior character, or that the cults are very little in evidence in this district.

As some of you will remember, our society appointed a legislative committee during the first year of its existence, and this committee has been reappointed from year to year since, and has given a good account of itself in promoting medical legislation. I trust it will be still continued.

Referring again to the less material advantages and work of a society, geographically situated as we are in the Upper Peninsula with a district several hundred miles long, this vast district of the dimensions of a state, sparsely settled for the most part, the advantages of even a yearly gathering where one can rub against his brother practitioner, and annex some portion of his professional ideas, and perhaps some of his humor, and become acquainted with even his peculiarities, is without question of great benefit to every member. This yearly contact not only broadens him, and makes him more sympathetic and generous to his rival in practice at home, but also takes him away for the time at least from his own environment of contracted self into the wider field of brotherly love and tolerance. "As iron sharpeneth iron, so man sharpeneth the countenance of his friend." It seems to me, therefore, to be a plain duty of every medical practitioner to unite with his district society, a duty not only to himself, but also to his patients and to the profession he is a sojourner in; and what I say of the district society is equally true of the State Society and the American Medical Association.

Two years ago application was made to the State Society for affiliation. The application was favorably reported on by the committee on admissions, but through an oversight the report was not acted upon, although I, as secretary, was informed by the state chairman that our society was admitted. This year the state committee reported again favorably, which report was unanimously adopted by the society. This affiliation with the State Society also affiliates us with the American Medical Association. Therefore, any member of the Upper Peninsula Medical Society who desires to unite with the State Society or national association, can do so by sending in a certificate of good standing in this society, signed by the president and secretary; and upon payment annually of five dollars he cannot only secure membership, but also receive the journal of the American Medical Association for one year. This journal, as you all know, is published weekly, and undoubtedly is the best medical weekly in this country, or for that matter in any country.

I need not comment upon the advantages gained through membership in the State Society or in the national society. As I have previously stated with regard to membership in the district society, I firmly believe every medical man owes it to himself and to his patients to connect himself with these societies. It gives him a standing that he can receive in no other way.

MEDICAL LEGISLATION.

I must congratulate the society upon the assured fact of our having, after thirty years of persistent effort and legislative warfare, at last secured a medical act that will compare favorably with any similar act in the United States, not excepting the Acts of New York or Nebraska. The act has been criticised adversely because it does not legislate against Christian Scientists and smaller cults, but after our legislative experience of a quarter of a century in this state, I think you will agree with me that we are indeed fortunate in that we were able to get a bill passed without conferring some legislative privileges upon one or more of the numerous cults unhappily existing and growing among us in this state. The bill as originally noticed by **Mr. Chandler** in the House contained the following section:

"When any person shall append the letters M. B. or M. D., or prefix the title "Dr." or Doctor, or any other sign or appellation in a medical sense to his name, or shall publicly profess or assume the function of a physician or surgeon according to the common acceptation of these terms," et cetera. The words, "or shall publicly profess or assume the functions of a physician," et cetera, were objected to in the Public Health Committee of the House by the friends of the mental healers, as prohibiting the Christian Scientists and others from practicing their religious calling. After consultation with leading members of both professions—law and medicine—it was thought best to allow the committee to cut this out, for the following reasons:

(1) By retaining it the bill could not be successfully passed through the House. (2) No other state law in the United States, except Nebraska, has such an interpretation of what constituted the practice of medicine. (3) Attorneys held that it was probably unconstitutional, and that it might affect the bill as a whole. (4) Attorneys also held that it was foreign to a medical bill to legislate against persons not using material means of cure, and that legislation against such matter should be had in a special act. (5) That it would throw upon the medical men of the state the expense of prosecutions of a semireligious sect, a responsibility that should be taken care of under the common law of the state, and it would make the medical act responsible for prosecutions that were certainly of doubtful use and effect, thereby tending to make the act unpopular, and subjecting it to possibly successful attack from future legislatures.

Pennington, among other things, in the *North American Review*, on "The Legal Aspects of Christian Science," says:

"Do existing laws suffice us in dealing with this delusion and its votaries, or is further legislation necessary in the premises? With the metaphysical and religious aspects of the delusion the law has no more concern than with those of Mormonism, Woodooism, Shakerism, Oneidaism, or any of the myriad forms of God or Devil worship. Ephraim may join himself to all the idols he desires, the law lets him alone. * * * New legislation in the premises is not called for, except, perhaps, to define "practice of medicine" more broadly in some jurisdictions. * * * Children are now very generally protected by special laws. No statute can cure an adult of folly. Laws specifically forbidding the practice of Christian Scientists would not only provide that cheap martyrdom which would be welcomed by an advertising business, and would be wrong both in principle and policy. The delusion itself is bound to die, as did that of John of Leydon and many others since that prophet's time; and it is quite certain to be succeeded by others. * * * Publicity will destroy the cult far more quickly than legislation."

The Committee on Public Health in the House added this exemption to Section VIII of the bill. "This act shall not apply * * * to those who do not use material remedies, but confine themselves to religious, mental or spiritual influences in the treatment of diseases." This so-called Christian Science exemption legally meant nothing further than this: That if mental healers did not practice medicine or surgery, or assume the title of doctor of medicine, then, and in that case only, they did not come within the provisions of the act. But as it was simply in the province of the medical act to regulate the practice of medicine and the use of the title of doctor of medicine, the exemption neither gave nor took away any of the legal rights that these cults did not already possess. When the promotors of the bill found that the House Committee intended adding a Christian Science exemption to the section referred to, they very ingeniously furnished the clause, previously eliminating all the materialism possible from it. This clause really furnished the lubricant by which the bill slipped through the House, for without it the bill would have received rough usage. It became necessary, then, for the promoters of the bill to educate the Senate and others on the harmlessness of the Christian Science exemption clause, in order that if the Senate cut it out and the House refused to concur, then, and only in that case, the Senate should concur in its retention in the bill on the ground that it simply meant nothing more than a reference to mental healers, giving them no rights not already possessed. So thoroughly was this education carried out that it was with great difficulty that it was finally, after several unsuccessful attempts, cut out by the Senate, and then only by one vote. The bill went back to the House for concurrence, was not concurred in, was then referred to a conference committee, referred back again unaltered to the House, and was finally concurred in June 7, and signed by the Governor June 13. The Act is practically identical to the bill as first noticed by MR. CHANDLER, the Senate cutting out the alterations or amendments made by the House. Our Upper Peninsula members of both branches of the legislature supported the bill in its entirety, and among other very good friends of the bill were SENATOR CHARLES SMITH, thirty-second district, and SENATOR MAITLAND, of the thirty-first district. Among other active supporters were HONORABLE H. M. OREN, Attorney General, and HONORABLE C. S. OSBORN, Commissioner of Railroads. The latter camped with the bill after it had passed the legislature until signed by GOVERNOR PINGREE, and the bill was hardly dry from the printing press when MR. OSBORN took it to the Governor for his signature. The quiet, unostentatious, yet not the less thorough work done by HONORABLE WILLIAM CHANDLER, the introducer and sponsor of the bill, deserves more than ordinary mention. Acknowledgment is also due and made to DOCTOR C. H. LONG, vicepresident of the society, who formed one of the conference committee in Lansing last February.

The following are among the leading features of the bill: (1) The appointment of a medical board of registration composed of five regulars, two homeopaths, two eclectics, and one physio-medicist. This board meets twice a year at Lansing, and is the executive of the act. (2) The re-registration of all physicians in the state upon furnishing sufficient proof to the board that they are legally registered under the Act of 1883. This will undoubtedly result in holders of bogus and fraudulent diplomas not being able to re-register. It is sufficient to note that the "graduates" and friends of the so-called "Independent Medical College," of Chicago, fought this section "tooth and nail," but were unable to defeat it in the House or Senate. (3) The recognition of foreign certificates of registration or licenses where the requirements for registration shall be deemed by the board to be equivalent to those of the Michigan Act. Provided, however, such country shall accord a like privilege to holders of certificates from the Michigan board. (4) The nonregistration of certificates or licenses from other states in the Union, unless deemed by the board to be equivalent to those of the Michigan Act, provided that such state shall accord a like privilege to holders of certificates from the Michigan board. (5) The recognition of diplomas from such legally incorporated and reputable colleges of medicine in the United States as shall be approved and designated by the board of registration. (6) The examination of all candidates for registration not provided for as above. (7) The reporting monthly by the several county clerks in the state of the registrations made, removals, deaths, et cetera. (8) The enforcement of the act by the board direct, not by local authority as at present by the old act.

You will note, therefore, that judicial and arbitrary powers have been conferred upon the board, and that it will have the absolute power to raise the standard of medical qualification to any height desired, and there can be no appeal from its ruling in this respect. The board can, if it so desires, refuse to recognize any diploma whether issued in this or a foreign country, and can compel in the future every applicant for a license to practice in this state to take examinations. It cannot, however, accept diplomas or list any college in this state having a course of less than three years of eight months in each year. I know of no medical act in the United States in which such absolute power has been conferred upon a medical board. A state board as a rule is simply the executive of the act which has embodied in it the standard.

MACKINAC MEETING IN 1900.

I must also congratulate you upon the success attained in securing the meeting for 1900 of the State Medical Society at Mackinac Island. Together with this society they will commemorate the deeds and works of that illustrious army surgeon, WILLIAM BEAUMONT. I trust that not only will every member of this society, but also that every physician in the Upper Peninsula will make it his aim to have the 1900 meeting of the State Society in the Upper Peninsula the most successful meeting ever held in the state. From correspondence with some of the leading men throughout the United States I am sure this next meeting will be more or less national in character; and if successful, as I think and am sure it will be with our cooperation, then we may expect a future state meeting in the central or western portion of this district at no distant date. I need lay no special stress on the object of the proposed joint meeting—that of honoring BEAUMONT—as this subject will be brought before you later on, as I understand the chairman of the BEAUMONT committee has a report on the subject. I am sure the importance of our next year's meeting will be thoroughly understood by every one here.

DOCTOR BELL'S REMOVAL.

It is with regret that I have to announce the removal from this district of DOCTOR SAMUEL BELL, late Medical Superintendent of the Upper Peninsula Hospital for the Insane at Newberry. DOCTOR BELL was the originator, or at least one of the most active of the originators, of this society, and to him is due in a large part its present successful condition. His interest in the society has always been of the greatest, and his contribution of papers and his attendance at meetings has always been assured.

THE LATE DOCTOR G. J. NORTHROP.

As we have no committee on necrology it devolves upon me who knew him very intimately, and valued his friendship very highly, as well as recognized his many virtues and attainments both as a physician and a man, to write a few words which very inadequately do justice to his memory and deeds. I refer to the late DOCTOR GEORGE J. NORTHROP, of Marquette, who died very suddenly of pneumonia in Boston, in February last. DOCTOR NORTHROP was born in Ohio, July 4, 1839, was educated at Yarmouth Academy, Maine, and attended a two years' course in pharmacy in Philadelphia. At the outbreak of the war he went to the front as a hospital steward. His regiment was mustered out in three months, and he then attended medical lectures in New York City, graduating from the College of Physicians and Surgeons of that city. He then returned to the service as Assistant Surgeon of the First District of Columbia Cavalry, and served to the end of the war. He was taken a prisoner of war on three occasions while attending the wounded on the field. He was an assistant to SURGEON-GENERAL BAXTER at different times during the war, and at one time had charge of the great Campbell Hospital in Washington. He settled in Marquette in 1867, where he remained in practice until his death. During his over thirty years of practice in the Upper Peninsula, he filled several important positions, among others, that of Chief Surgeon to the D. S. S. & A. Ry. As a local railway surgeon under him for several years, I cannot only testify to his ability as a surgeon, but also to his honesty of purpose and his extreme humanity and kindliness of character. DOCTOR NORTHROP was no ordinary man either as a citizen or as a physician. He was a strong man mentally, and knew no such thing as fear when he had decided a thing was right or wrong. And I know no man who asked himself in all things "Is it right or is it wrong" oftener than he did, and who acted instantly upon the question being conscientiously answered. Like most men of honorable instincts, active habits, and intense natural likes and dislikes, he was either a good freind or a bitter, but honest foe. He knew no such thing as "trimming." In his practice a spade was a spade. He was not that type of a practitioner who called a bronchial attack pneumonia, and congestion of the liver typhoid. Therefore he was not "an aborter of typhoid or of pneumonia." Some of us will remember the stand he took at the initial meeting of this society at Marquette in 1895. A certain practitioner, a graduate of Harvard University, was an applicant for admission, who had been in the past an advertising quack, but who had promised reformation if admitted. The committee was inclined to be lenient had it not been for DOCTOR NORTHROP's stand, who appeared before it and said: "If you admit this man you can take my name off the role of membership. I have nothing personal against him; I simply despise and abhor his methods. I know I am making things disagreeable where things ought to be smooth, but a sense of duty prompts me to take the course I do." Events since have proven the wisdom and justness of his course. Residents of Marquette will tell you of innumerable *clientals* that he lost through his want of policy, as opposed to a rigid and characteristic directness of manner and speech which prevented him from assuming any middle ground when he thought it in the interest of his patient and his own sense of rectitude to say exactly what he thought. He, like the rest of us, had his faults, but such faults and weaknesses that he possessed, and they were few, were those that naturally go with a strong mind and body. Shortly before his death he was associated with me in medical legislative matters as Chairman of the Legislative Committee of this society. He spent several days in February in Lansing in conference with members of the different schools over the Chandler bill, and appeared several times before the committee, where his speeches in support of medical legislation were models in their way; and it was largely owing to his energy, his directness, and his great ability for work of this nature that the schools were able to get together and agree upon a bill that has commended itself, and received the undivided support of all schools, whether they were regular or nonregular. Knowing him as well as I did for over ten years, he and his work at this time was a revelation to me. And his death soon after was a blow from which I have not yet recovered. The clergy of Marquette tell of innumerable "deeds of the heart" committed by DOCTOR NORTHROP, which they had from time to time unearthed, but which he always endeavored to conceal from public view. He was known throughout this district as the uncompromising foe of unclean surgery. Indeed he was one of the first of disciples of LISTER in this state, and his belief and practice in asepticism and antisepticism was a religion with him. Innumerable anecdotes are told in connection with his intense belief and faith in the germ theory. Stories of his refusing to enter houses to attend cases until after a thorough scrubbing out process had been done under his immediate direction, and in one case that I know of, he expressed a surgeon a cake of green soap and a nail brush after having received from him a case in which a finger wound had been done up without regard to the cleanliness of the hand. These instances simply illustrate the intensity and earnestness of his character. I speak of DOCTOR NORTHROP from the vantage ground of one who has had exceptional advantages of judging of his professional, public and private life. In the latter, as a husband and father no one ever excelled him in his love for home and those things that go to make home a blessing, and I think no man ever lived who appreciated the virtues of a wife, child and home more than he did. His last words were: "If I were only at home." The words were simple indeed, but they came from a heart full of the agony of dying away from home and his beloved ones. His wife and daughter were unable to reach his bedside before the "grim reaper" had claimed his own. I attended his funeral, and sent a floral offering on behalf of this society that can illy afford to loose at this time a member so greatly endowed with so many of the characteristics that go to make the perfect physician, surgeon, husband and father.

Before concluding I must say that it is with very great pleasure that the society meets this year with their brethren of the Copper Country. No community in the state has, I understand, greater reasons for congratulation than the people in this section of the Upper Peninsula, not only as regards the quantity but also the quality of the physicians in their midst. It has always been with regret on the part of the society that the physicians of the Northwestern part of the district have heretofore, for one reason or another, failed to join our society in the number to have been expected. I trust now that they have made a beginning, the future will always see a large and representative turnout from this section whose influences will undoubtedly be felt to the great advantage of the society.

MEMOIRS.

A REPORT OF SOME CASES TAKEN FROM MY CASEBOOK.*

By H. J. HORNBOGEN, M. D., Marquette, Michigan.
FORMERLY RESIDENT SURGEON AT THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY, CHICAGO.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THERE is perhaps no class of cases which more often come under the observation of the ophthalmologist than the so-called asthenopic cases. Most authors divide asthenopia into two broad classes—the myotic and neurotic—with a third class made up of a combination of the two. It would be impossible in so short a paper to any more than allude to some of the more important points in these troubles, and to this end I shall report a few cases under each heading.

I.—Myotic Asthenopia, in which the defective condition of the eye is probably the only factor in the production of the reflex disturbances. The patient usually complains of blurred vision; inability to work at close range, or to gaze intently at stationary objects; more or less dread of light; headaches following the use of the eyes, which may come on immediately or be delayed several hours. Pain in the back is not uncommon, also vertigo, drowsiness, insomnia and other reflex neuroses. In the two cases which I shall report under this type of affection the eyes alone were, after a thorough physical examination, found to be at fault.

Case I.—Mary L., aged thirty-two years, married and has two children. Patient had always been in excellent health and was well nourished. She consulted me February 12, 1896. For the past year she had complained of daily headache, pain in the eyes—neuralgic in character, inability to use the eyes for close work, slight photophobia and diplopia at times, experienced nausea after riding on the train. Examination of the eyes showed a hypermetropia of about two dioptres, with an exophoria of 6° by the Maddox test. I corrected the eyes with + 1.25 Sp. and put her on orthopic exercises. In six weeks she made a complete recovery.

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*Read before the Upper Peninsula Medical Society.

Case II.—MR. C., aged thirty-seven years, a captain on the lake. He was referred to me for examination by DOCTOR HARKIN on May 5, 1899. Patient had always been in good health and his appearance denoted a strong constitution with great physical endurance. He was perfectly temperate in his habits. For the past few months he complained of inability to read for any length of time, had more or less vertigo. In walking on the street objects in front of him would seem to jump. On several occasions when looking intently at objects which were on a plane above his head he fell over and was semiunconscious for a few moments. Upon examination of his eyes I found a myotic astigmatism of one dioptre, axis 90°, with a slight exophoria. The eyes were corrected with appropriate glasses. He showed improvement at once and up to this time has remained completely well, no recurrence of any of the symptoms.

II.—NEUROTIC ASTHENOPIA, in which the eyes often show slight muscular anomalies, probably due to the neurotic condition of the patient. This form is sometimes called hysterical asthenopia and the name itself would indicate the various symptoms of which the patient may complain. As a rule the eyes need no correction, and glasses are of little benefit except in the capacity to act as a suggestion. Here I wish to state that suggestion is the most powerful therapeutic weapon which the physician has at his command in the treatment of this affection.

Case I.—On February 10, 1899, I was called to see a patient living in an adjoining town. I was ushered into a darkened room and found MRS. W. reclining on a couch. The windows of the room were covered with heavy black shades and the coal stove was surrounded with a black screen. Upon interrogating the patient I found that she had been in the dark room for two years, also protecting her eyes with voluminous coverings. She stated that she had eye trouble for fifteen years and two years before found it neceesary to remain in a dark room. She was fifty-two years of age and the mother of four children. She complained of headache, pain in side and a total inability to use the eyes, experiencing most intense photophobia at the slightest suspicion of light. She was well nourished and her appetite was good. I suspected the element of hysteria and adopted a plan of procedure suitable for the case. I convinced her that I had a new remedy, a few drops of which into the eye would enable her to look around the room. After partially removing the coverings from the eye she complained of intense pain due to the light. I persisted and succeeded in dropping a few drops of cocaine solution into the eye, telling her that in two minutes she would be able to open her eyes without experiencing any pain whatever. At the end of a few minutes I succeeded in getting her to open her eyes and look at a friend. I now cautiously removed the coverings from the windows and the screen from around the coal stove. Upon examination the eyes looked normal and with an improvised chart showed very good vision. She considered her condition a very serious one, in which I acquiesced while impressing her mind with the fact that she could be cured completely. I prescribed a pair of smoked glasses and a placebo for the eyes. Her improvement was rapid. In two weeks she was able to be out. Since then she has remained well except when I called on her July 3 she was complaining of a slight pain in her side. She is using her eyes some and is very much encouraged with her condition.

Case II.—Mr. Y., a well educated gentleman, aged fifty-two years, consulted me June 6, 1897. Patient's physical condition is fairly good. His occupation keeps him indoors most of the time. He complained of inability to use his eyes for more than a few minutes without considerable pain in the eyes and head. The trouble had begun some years before and gradually grew worse until at present he could use his eyes very little. Upon examination I found a hyperopia of plus one diopter, and after repeated examinations could find no other trouble with the eyes. I gave him glasses for reading and a lotion to drop into the eyes. He was under my observation for some weeks with no decided relief, when he was urged to consult an oculist in a distant city. Soon after his return he told me his eyes were no better. The oculist fitted him with both reading and distance glasses and referred him to the neurologist. He was placed on treatment and referred to a lung specialist and then to the dentist. Having received no relief from the medical profession, rumor had it that he embraced Mrs. Eddy's doctrines and was completely relieved of all his troubles. I am not in a position to state positively but think that after discarding his glasses for a few months he is wearing them again.

The third class of cases which are, perhaps, most common, is that type of Asthenopia in which both the eyes and nervous system are at fault. Briefly stated the symptoms usually present are headache in any part of the cranium, which may come on at any time of the day; pain in the eyes after slight use is almost always present; dizziness, vertigo, dread of light, disturbances of stomach and bowels and various other remote symptoms may be present. In this trouble the necessity of hygienic and medicinal treatment must not be overlooked, but the treatment of the eyes is of paramount importance.

Case I.—Annie H., aged eighteen years, housemaid, consulted me November 16, 1897. Symptoms: Eyesache nearly all the time; headaches almost daily; inability to read; photophobia; lachrymation.

Correction: O. D. + .50 Cy. Axis 90°.
O. S. + .50 Cy. Axis 90°.
B. E. ¾° prism, base out. Cured.

Case II.—Blanche McA., student, aged seventeen years, consulted me August 12, 1896. Symptoms: Constant headache for the past fourteen months; photophobia; can read only a few minutes.

Correction: O. D. + .50 Sp. = 1½° prism, base out.
O. S. + .50 Sp. = 1½° prism, base out.

Up to date patient is free of her trouble.

Case III.—Alma B., aged twenty-two years, housemaid, consulted me

August 6, 1898. Symptoms: Almost constant headache; stomach trouble, with constipation and vertigo.

Correction: O. D. + .75 Sp.
O. S. + .75 Sp.

Prismatic exercises for exophoria. Cured.

Case IV.—George G., aged twenty-seven years, book-keeper, single, consulted me September 10, 1897. Symptoms: Almost constant headache of eight months' duration; inability to use the eyes long; photophobia.

Correction: O. D. — 2.50 Sp.
O. S. — 2.50 Sp.

Prismatic exercises for exophoria. Cured in six weeks.

Case V.—Charles S., aged thirty-two years, fireman, single, consulted me July 12, 1896. Symptoms: headaches; insomnia; palpitation of the heart; photophobia. Patient had been losing in weight for three or four months and showed all the symptoms of a general nervous breakdown. He had been treated by eminent nerve specialists in Washington and Philadelphia. Referred to me by Doctor F. McD. Harkin.

Correction: O. D. + 2. Sp.
O. S. + 2. Sp.

Prismatic exercises for exophoria. Began to improve at once and is at present very well.

ECTOPIC GESTATION.*

By FRANK DUANE SUMMERS, M. D., Detroit, Michigan.
VISITING GYNECOLOGIST TO SAINT MARY'S HOSPITAL.

[Published in The Physician and Surgeon exclusively]

The subject, "Ectopic Gestation," which I wish to present to you this evening is one of great importance to the general practitioner, for it is he who is more likely to come in contact with such cases before the gynecologist is called upon to express his opinion. It is a subject that should be studied very carefully, for it has already been proven that it is a state which is more commonly met with than was supposed to occur a few years ago. The important offending organ that we have to deal with in this trouble is the Fallopian tube, which has given the larger per cent. of cases that are on record. There are other conditions that favor an ovarian or interstitial gestation, making the three locations of ectopic gestation which are called ovarian, tubal and interstitial.

I wish to speak in full in regard to the tubal variety, as this includes the larger number of cases and consequently is of the greater importance. There is undoubtedly some lesion in the interior of the tube which obstructs the free passage of the ovum into the uterus, and it becomes impregnated in that position. This lesion is caused in some cases merely by a desquamation of the ciliated epithelium in some portion of the tube, in some by a change in the function of the epithelium lining the tube, and in others by some distortion or angle of the tube brought about by some inflammatory trouble producing abnormal tension from adhesions. As the ovum becomes impregnated in the tube, even if the epithelium should not be abnormal, there is a mere chance that it might attach itself there and go on with the usual development.

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*Read before the Wayne County (Detroit) Medical Society.

In some cases of ectopic gestation it has been proven by the microscopist that there has been no abnormal change in the epithelium of the tube, but such cases probably occur very rarely. This unfortunate condition of pregnancy may happen in those that have already borne several children, or it may happen soon after their first marriage. I wish to mention here that we are to understand that the ovarian gestation is one wherein the impregnation and attachment forms at the fimbriated extremity of the tube, or at the opening of the Graafian follicle which still retains the ovum. It has been proven that the ovum will become impregnated after the rupture of the Graafian follicle before it has a chance to escape, and will attach itself there for further development. The interstitial variety is one wherein the gestation takes place in the end of the tube which is embraced by the uterine wall. There are cases on record, but not embraced in my operative work, wherein gestation has taken place after removing the ovary of one side and the tube of the opposite side, showing that pregnancy will take place under very peculiar conditions.

I cannot illustrate this subject better than to report three cases of extra-uterine pregnancy that have been recently under my observation.

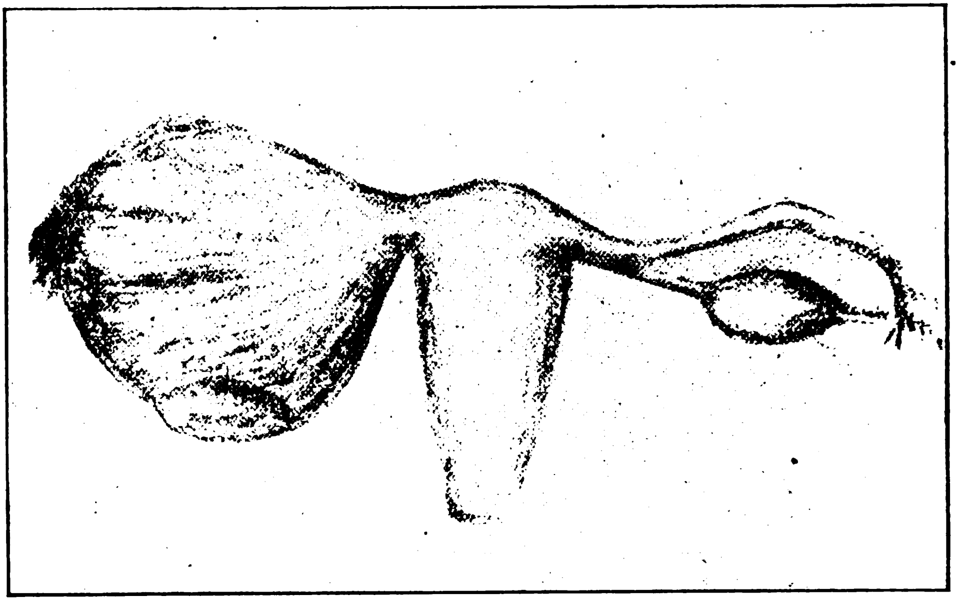

FIGURE I.

Case I.—Mrs. H., aged thirty-four years, who had never been pregnant, called me to her home last October and gave the following history: Three months ago, at the time of the regular menstruation, the flow was unusually hard for one week, and then at the end of each week there was a slight flow for one day which lasted for seven weeks, and at the end of this time the hard flow again returned, which marked the advent of my connection with the case. After it had continued for a few days she was nauseated, confined to her bed and generally very much prostrated. She had no rise in temperature or pulse beat. I informed patient of the necessity of a careful examination, to which she was agreeable, and I found what you will see represented in Figure I, a large mass situated at the right of the uterus, which involved the Fallopian tube. I diagnosed an extrauterine pregnancy and informed her of the necessity of entering the hospital at once for an operation. She consented to enter Saint Mary's Hospital in the afternoon of the same day, and I had her prepared for operation for the following morning.

On entering the peritoneal cavity through the median line of the abdomen I found that rupture of the tube had already taken place, undoubtedly a few minutes before, and the abdominal cavity was likened to an opening into a fountain of blood which at once showed the necessity of energetic work. After controlling the severe hemorrhage I proceeded to investigate and found that the whole tumor was within the Fallopian tube, which I removed in the usual manner for abdominal work, and closed the wound in the median line of the abdomen.

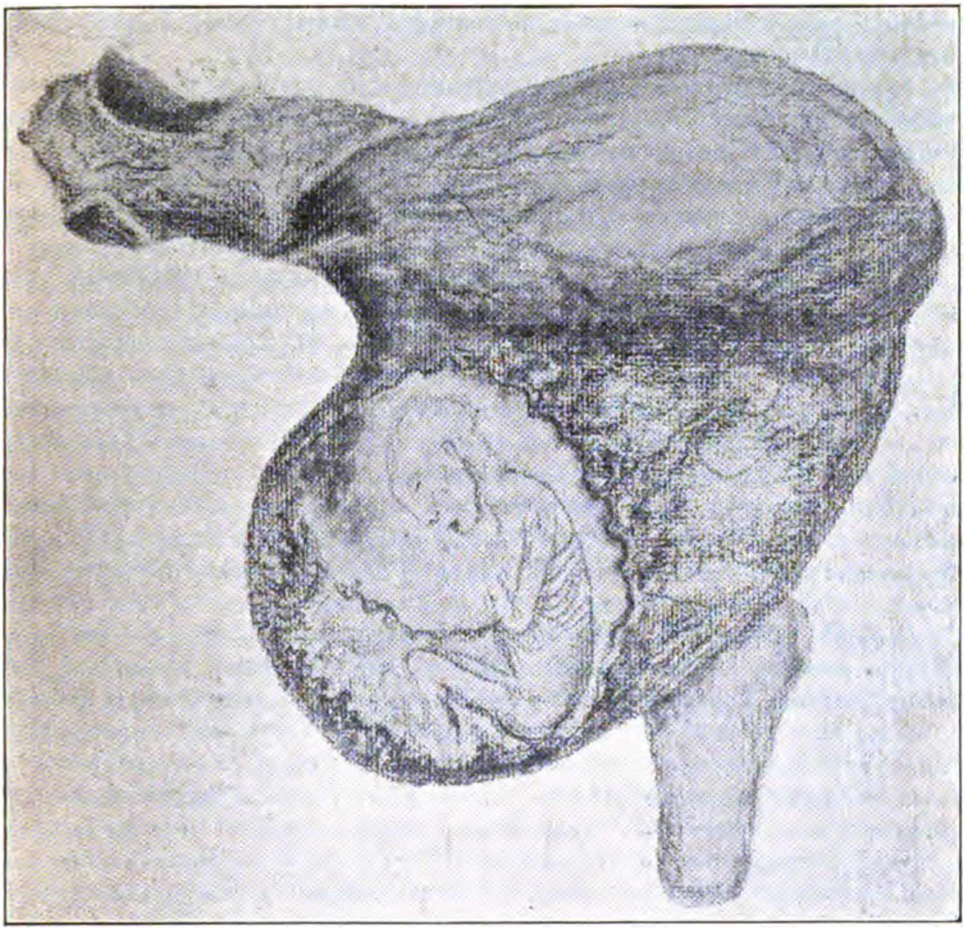

FIGURE II.

Patient made a complete and uninterrupted recovery, the wound healing by first intention. She was so prostrated from her sickness at home that she had to be taken to the hospital in the ambulance, which was much the better plan, as it undoubtedly saved her from earlier rupture of the tube.

Case II.—Mrs. W., aged forty years, who had two miscarriages earlier in life with apparently good recovery. Patient was quite well until two years ago when she became pregnant, the condition proving to be extrauterine. She was operated upon and made a good recovery. Everything went well until last October when the woman thought she was again pregnant, as she had skipped her menstrural period that was due on the ninth of that month, and also as she became somewhat nauseated as time passed. As she advanced the nausea became so increased that finally she began to have very severe attacks of vomiting and obstinate constipation which medicine would not control. About this time, which was in her fourth month of pregnancy, she was taken very suddenly with collapse that made her pulseless, almost speechless, and covered her with cold, clammy sweat.

At once I began treatment by energetic stimulation and heat, which was continued for several hours with slight favorable reaction. Patient gradually rallied and progressed to marked daily improvement. I examined her at this time and found her pregnancy to be entirely extrauterine, which you can see nicely represented in Figure II. I informed the family at this time of the necessity of getting her into condition to be removed to the hospital to undergo a laparotomy, but before she was strong enough to make the journey in the ambulance she was taken with her second collapse, showing that there was undoubtedly another severe internal hemorrhage. She was again very slow to rally from this collapse, but as soon as I considered removal safe an ambulance was called, and she was taken to Saint Mary's Hospital and operated upon, an opening being made through the median line of the abdomen. I found the tumor situated entirely within the tube, being composed of a four and one-half months' fetus and its membranes and a large quantity of clotted blood, which were removed as quickly as possible and the wound closed in the usual manner. Patient made a good recovery, and left the hospital quite well and strong.

Case III.—Mrs. W., aged thirty-four years, who had never borne any children, became, as she supposed, pregnant, which condition passed into the second month. About the eighth week she experienced nausea and a show of blood which continued daily until she was so alarmed over the occurrence that she thought it advisable to call me to her home. I examined her carefully and found the tumor situated to the left of the uterus, which I diagnosed as tubal pregnancy and ordered her removed to Saint Mary's Hospital in an ambulance, where she was prepared for an operation the following day. Her condition was similar to that of the first case reported, except the tumor was on the left side. The Fallopian tube had already ruptured, and the abdominal cavity was filled with blood. I removed the tumor as quickly as possible, and after controlling all hemorrhage closed the wound in the usual manner. She made a good recovery, and left the hospital feeling quite well.

My experience has taught me that an early diagnosis must be made as to the location of the gestation, and should it prove to be tubal or ovarian, it should be operated upon at once; but should it prove to be interstiltial, such treatment must be guarded with great precaution, for there is great danger of having a very severe hemorrhage from the uterine wall, which is very hard to control.

FUTURE PROVISION FOR THE CARE OF THE INSANE.*

By JAMES F. BREAKEY, M. D., Ann Arbor, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

For the past four or five years the Eastern Michigan Insane Asylum at Pontiac has been unable to make immediate provision for the insane of Washtenaw county. Owing to this fact some patients have been detained in the county jail for periods varying from several days to several weeks, some have been sent to private institutions, while others have been detained at home, a great burden to their friends as well as a constant menace to public safety, the delay in receiving proper medical treatment constantly lessening their chances of recovery. What is true of Washtenaw county, is equally true of the other counties in this asylum district, and, in fact, of all the counties in the state. Such conditions cannot prevail without attracting the notice of the public and demanding correction. To meet the exigency various plans have been suggested. With a view to overcoming the present deficiency the Joint Board of Trustees of the Michigan Asylums has seconded the Trustees of the Eastern Michigan Asylum in their recommendations for increased room at the Pontiac institution, namely, by the erection of two more cottages of a capacity of one hundred each. The last legislature made appropriations for such additions and they should be ready for occupancy in about one year. So in about one more year's time this Asylum district will have room for the care of one hundred more men and one hundred more women.

In this connection I wish to quote from the last "Report of the Eastern Michigan Asylum:"

"It will thus be seen that, starting with a building originally planned for 330 patients, the normal capacity has been added to by provision for 476 beds, giving us for its present normal capacity 806; or, if we count the original capacity of the building as 400 by utilizing the day rooms for dormitories, and by the use of certain single rooms as double rooms, the present normal capacity may be regarded as 876. There are at present cared for 1065 patients, or an excess of patients over the normal capacity of the institution of 189, a gain brought about by the sacrifice of single rooms and, in many instances, *by the sacrifice of a proper amount of cubic air space for patients.* * * *

"There has been during this period an *average net annual increase* of patients in the institution of about 60." * * * "Since the latter part of that year (1894) its doors have been closed in a measure to patients, the number under treatment remaining constantly at the full capacity of the institution and admissions being made possible only as discharges take place by death, or removal in other ways. Since this period in the neighborhood of 200 patients—an average of fifty a year—have applied for admission from time to time without obtaining relief. During the past year, that is, from July 1, 1897, the pressure has been unusually great, there being on hand at the close of the year as before referred to the applications of upwards of sixty-six patients unacted upon."

According to this extract immediate asylum treatment has been denied the public for five years, while upwards of 200 undoubtedly deserving cases have never received asylum treatment or care as provided for by the law. The net annual increase of insane is sixty and increasing. In July, 1898, there were sixty-six applications unacted upon. Today there are filed the applications of some seventy-five men and forty-five women.

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* Read before the Washtenaw County (Ann Arbor) Medical Society.

How can these new cottages remove the evil? It seems that there is still a part to remain unprovided for. The acutely insane will still be discriminated against. Further quoting: "The State is already committed to the policy of making provision in State institutions for all the indigent insane. This is already the established policy, a policy supported on the grounds of humanity and true economy." "Whatever mistake has been made in the past has been in the direction of inadequate and tardy provision." * * * To make additional provision only when the accumulation of the insane in the district becomes burdensome to the town and county officials defeats the true aim of the institutions, makes them inevitably places for custodial care only."

If, then, still further room will be needed, how is it to be acquired? Can the present institutions keep on growing indefinitely? Can any one man, even of the ability of our present asylum superintendents, properly give to each patient his individual care, supervise the other departments and be responsible for things executive, if these institutions are to keep on growing? As they are, our larger asylums are much like villages of from 1,000 to 1,500 population, which are to be fed and watered and clothed and bathed, and cared for in a thousand and one different ways, and all under the direction of one man. It would seem that there should be a limit to such a growth; that the population of our asylums had reached a growth beyond which it is not wise to go.

With the two new cottages at Pontiac, the population will be 1,265, and yet the district will not be provided for. For the relief of Washtenaw county two other remedies have been suggested: One by PROBATE JUDGE NEWKIRK for a revival of the County Asylums, and another by DOCTOR WILLIAM J. HERDMAN for the establishment of a Psychopathic Hospital in Ann Arbor. The possibilities of the revival of the county plan open up a large field for discussion. It is a plan which has had a most thorough trial not only in Washtenaw county and Michigan, but throughout the whole country, and in all the states but Wisconsin it has been rejected as unsatisfactory, inefficient, improper and inhuman. A brief synopsis of the history of Michigan's care for her insane under the county system is of interest in this connection. I shall make a few quotations respecting the former methods of care obtaining under the county system, from a paper entitled "State and County Care of Insane," by DOCTOR GEORGE C. PALMER, deceased:

"The County System, so-called, is altogether inadequate for the care of insane patients. It provides unsuitable buildings, imperfectly heated and ventilated, makes no attempts at classification, does not effectually separate the sexes, provides insufficient food and merely nominal attendance." "Nor is this all. Political influences frequently enter the county houses and interfere with their successful management." * * * "When patients became much disturbed and violent, cells were prepared for them in the basements of some of the alms houses and they were confined in them, cold, naked, filthy, and without beds, excepting straw on which to stretch their weary limbs. These cells were cleaned out occasionally by irresponsible men, who in more than one instance washed the filth off naked women with cold water and a broom. Such was the care of some of the insane under the old regime."

* * * "A delicate and very respectable woman was removed from the Asylum at Kalamazoo to a County House against the advice of a physician in charge. While there, one of the male paupers, such as frequently infest county houses, gained access to her and in due time she gave birth to a living child to swell the number of the dependent class." * * * "Occurrences of this kind were not infrequent, as we would naturally expect, under the old county system, with no means of classification and little or no oversight."

It certainly is not necessary here to further emphasize the errors made and the wrongs done to insane by those in charge under the old county system. DOCTOR PALMER closed his paper in speaking of the present system of State care by saying: "With few exceptions the insane have been placed under treatment, the rate of maintenance has been steadily reduced, while the standard of treatment has steadily improved. No one of the older states of the Union has spent less and provided more with its money for its insane than Michigan and few states can boast of better results. Men competent to judge both at home and abroad have recognized this fact. Ought we under such circumstances to give up what the wise and good approve, to return to a system that sooner or later we will deplore."

In Wisconsin a system of county care of insane under a general State supervision is in vogue. The citizens of the State, those who have no insane friends or relatives, seem fairly well satisfied, and the members of the State Board of Control are enthusiastic over the plan, but it will be of interest to hear what recognized authorities on the care and treatment of the insane think of their system. DOCTOR C. B. BURR, formerly Superintendent at Pontiac and now of Oak Grove, has a very interesting article entitled "A Winter Visit to the Wisconsin County Asylums" in the *American Journal of Insanity*, Volume LV, Number II, 1898. I make some rather extended quotations from his paper and it would bear reading in full if time would only allow. He says:

"In the County Asylums curative treatment is not attempted." "Not uncommonly the county poor house and county asylum are under one management, an assistant superintendent having charge of the asylum proper." "In county asylums there were from one hundred to two hundred patients. For these there are provided about four attendants and two night nurses." "I was struck by the large number of untidy cases in certain institutions of the lower grade." "Many of them appeared to sadly need care." "Bath tubs were often dirty and closets unclean."

"'Do you have no one here,' I asked an attendant in a barren and cheerless institution, 'who was once intellectual and refined in tastes and who is apparently depressed by his surroundings?' 'Why yes, we have a man who was bright once; he was a school teacher. When he came here he used to be quite bright; I enjoyed working with him outside. He talked very intelligently, but now, he says nothing. He has dropped to the level of the others.' 'Isn't that the tendency?' I asked. 'Yes, I think it is,' he said, and added 'it would be so with a sane person, would it not; his surroundings would affect him.'"

"In the majority of cases patients received night attention from nurses of their own sex. In one, a male night watch (it was explained that he was '*an old man*') made the rounds in the department for women and called the attendant if her services were needed. Aside from noticing noisy demonstrations through listening at closed doors, how he could become acquainted with the fact that any female patient needed attention, without flagrant violation of the proprieties did not appear." "In some of the asylums much dependence is placed upon the care of patients by each other. They do bathing, and in one case at least a patient does the barbering *and has exclusive care of the instruments of his craft.*" "What medical care patients need is bestowed by a physician residing in town." "Many patients looked cachectic, and in one institution among fifty-eight male patients there were fifteen cases of goitre, most ot which had developed since the transfer from the State Hospital. The physician in charge attributed this to the 'lack of oxygen.'" "Shackels and handcuffs were used, patients were beaten and whipped, and I was shown a gag of wire, bent in the form of a horseshoe, which had been inserted in the mouth to prevent a woman from screaming. Two cat 'o nine tails were shown to me which had been employed in the same establishment by a previous superintendent to induce female patients to go to the bath tub." "Indeed, abuses seem inseparable from the County System."

He closes with "Summing up my objections to the County Asylum System they are based upon—(1) Absence of the Hospital idea; (2) Lack of medical oversight; (3) The inadequate care of patients, particularly of the filthy and feeble classes and epileptics; (4) Lack of sufficient attendants, which necessitates patients remaining too much indoors, particularly in the winter time; (5) Lack of standards of care prescribed and enforced by central authority, superior to politics, as shown in the extreme variation in per capita cost and difference in beds, furnishings, attendance, et cetera; (6) Lack of efficient state supervision. Frequent lack of discriminating local supervision, this due chiefly to absence of knowledge of the requirements of the insane and the desire to make favorable financial showings to Boards of Supervisors."

That, then, is the condition of things in Wisconsin where the system of county care is said to have been carried out successfully. Now, if the question is purely one of economy, if the rights of the individual are to be eliminated, if the proprieties are not to be considered, if humanity is to become inhuman and the civilization of Michigan wishes to return to a barbarism worse than that of the savage, then let us return to the primitive methods and the state and county will save much money, for it is unquestionably cheaper. But happily the people of Michigan do not make it purely a question of cheapness of maintenance. Such of the insane of Michigan who are cared for by the State in the asylums are well cared for. But unfortunately the number of insane is increasing, and not only is the number increasing, but the proportion is larger. Our institutions are full, all of them, and have been full for the past three years or more, and today when an indigent man or woman from Washtenaw county is adjudged insane and dangerous, he or she must be confined in the county jail, and this for an indefinite period. Still further provision for the public care of the insane is absolutely necessary.

I will now consider DOCTOR HERDMAN's plan, which, properly speaking, was not intended by him as a relief to the pressure brought to bear upon Washtenaw county in particular. The most of you are doubtless acquainted with his plan, as it was published in the *Ann Arbor Argus* some time ago. He advocated the establishment of a Psychopathic Hospital in Ann Arbor in connection with the

University Hospital. This was to be a receiving asylum for all acute cases, which cases were to be treated here for limited periods and then distributed around among the existing asylums, making of them asylums for the care of the chronic insane. The maximum capacity of the institution was to be thirty patients. Some of you may have read the address of DOCTOR PETERSON, read before the annual meeting of the American Medico-Psychological Association, which bore directly upon this subject. DOCTOR PETERSON'S address will prove interesting, and entertaining to any of you who may be interested in this subject.

DOCTOR HERDMAN urges advantages to be derived from such a hospital, under four different heads: (1) Those to the patient; (2) Those to the asylum; (3) Those to the medical student; and (4) Those to the science of psychiatry. Much good would unquestionably come from such a hospital, especially if we could have it in addition to another regular State asylum. But as a means in itself of relieving us of the ever increasing number of insane, it will not be sufficient. It would be likely to be looked upon by a Legislature as a *luxury* when we had not yet sufficiently provided ourselves with the *necessities*. The expense of maintenance in such an institution would of necessity be greater than that in our regular hospital. There, exclusive of heat, light, and medical attendance, the per capita cost is something over one dollar a day. Counting all these things I am informed that the approximate cost would range between $1.25 and $1.50 or from $8.75 to $10.50 a week. The per capita cost, including everything, in the State asylums is forty-two cents a day or $3.08 cents a week. The difference is large and for the maintenance of the thirty patients, the State would pay annually, approximately, $10,000 more in the new institution than in the old. As bearing directly upon this subject, I quote again from another source:

"DOCTOR HERDMAN would say that we are arguing from the wrong end; that the demand for room for patients would decrease if more patients were cured, and this could best be done in such an institution as he would have; but it must be remembered that the acute psychoses or the recoverable forms of insanity furnish an inconsiderable percentage of the whole number who enter asylums. The burden of caring for the chronic insane does not arise from the unrecovered cases of acute psychoses; and I venture to say that the most, if not all, of the cases who would recover under the advanced scientific care from DOCTOR HERDMAN, with all the advantages they would derive from his superior knowledge of therapy and experimentation, even with the advantage of having biologists, psychologists, neurologists, and all the other ologists, around them all the time, would still recover under the somewhat less enlightened care which they receive now in State institutions, leaving us still to deal with the great army of defectives whose mental aberration is due, not to removable causes, but to causes inherent in the individual's constitution."

As to the results now obtained under existing conditions, I would quote from the last biennial report of the Eastern Michigan Asylum: "Of all the admissions from the beginning (4,919) twenty-nine and four-tenths per cent. have been discharged into the hands of their friends and have never returned to the asylum. Excluding deaths from the count, thirty-seven and five-tenths per cent. have been discharged and not returned."

The management of a modern asylum is no simple matter. Our asylums are institutions of which we should be proud. The methods employed in them are the same as those in vogue in our modern hospitals. The laboratory facilities are fair and rapidly improving. The diagnostic work is by no means limited to psychological research. The methods of treatment are modern and scientific without subjecting the patients to experimental usage. The surgery is done under scrupulously aseptic precautions, while the opthalmological and gynecological work is in charge of specialists. The hygiene and sanitation of the buildings is better than that of the average hospital buildings. It may be, in fact there can be no doubt, that there is still room for further improvement, and under the present system of management we may confidently expect further progress. We most certainly do not want to go back to the old county system of care. The question is, should we be wise in asking of the legislature a large appropriation for a small hospital which would care for a small number of insane at greatly increased cost per capita and with but comparatively few advantages to offer?

The burden (and it is a burden) of caring for the insane in Michigan is becoming a heavy one. Legislatures hesitate to increase this burden, and will be even more reluctant when it comes to providing another building at a large expenditure to care for an increasing number of insane. No one can quite appreciate the necessities of the case who has not given to it more consideration than most people have. DOCTOR BURR quotes a Wisconsin gentlemen, who says: "People as a rule do not look at these matters from a proper point of view until they have had trouble in their own families. They do not know the needs of the insane. They do not realize what is done or what can be done for them. They see only the cost of their care. Human nature is selfish and people as a rule pay little attention to matters with which they are not closely connected." That expresses it in part. The visitation of insanity to a family is a greater hardship than any can know who have not had experience. If it comes to the head of the family, all income is cut off. Expenses are increased, and unless that man, fortunately, is independently well off, his family become destitute, and he a charge upon the bounty of the State or county. Is it right to pauperize him, and should he be sent to the poor house or jail? Is it economy to the State to delay his commitment to an asylum where delay must mean diminished chances of recovery and where he must remain if he relapses into a chronic, while the family hitherto supported by his efforts, now becomes an additional burden to the county? Guilty of no crime, formerly quiet and industrious, he is suddenly by due process of law, deprived of his liberty, for the protection of the public, simply because he is unfortunately the victim of insanity. Perhaps he has paid taxes to support the State Asylums, but now he needs their care and benefits and instead he is sent to jail because the asylums are full. His position is much like the man who in old age finds his life insurance policy worthless because it is issued by an unstable company and he wishes when it is too late that he had paid a little more annually that he might now reap some of the benefits. Is it not better that a little more should be spread upon the tax rolls in order that room be provided for all? How many are there in Michigan today, who are prepared to provide indefinitely for an insane member of their family? Who have laid up sufficient to provide for their families and also pay their expenses in an asylum, when they are overcome with mental breakdown? There is no dodging the fact that the provision for the care of the insane is inadequate. The only relief is to be obtained by the provision of a new State asylum, controlled by the same system of management as the other State institutions.

The establishment of such institutions is usually recommended by the Joint Board of Asylum Trustees. They are located geographically in the districts in greatest need of further provision. The district hardest pressed at present is unquestionably that supplied with the Eastern Michigan Asylum at Pontiac, and it is bound to have relief in some way soon. Now, when the recommendation comes from the proper source, asking for the establishment of a new State asylum, there are many advantages which Ann Arbor could claim as a location. The same advantages claimed by DOCTOR HERDMAN for the establishment of a Psychopathic Hospital would apply in even greater force to the State Asylum, and some of these direct and indirect advantages I wish particularly to emphasize:

First: In locating any such institution the attractiveness of the location, the land, its farming facilities and the water supply are of paramount importance. The location, too, must be central and accessible. Ann Arbor can claim all these advantages. Now, as to the special reasons for bringing to Ann Arbor the next State asylum. It strikes me that the most important benefits are not to the asylum proper, but to the University and to the public at large, in giving to the future medical men of the country a much larger field for clinical work and in particular an unlimited opportunity for the study of conditions of insanity.

The study of psychiatry has been sadly neglected in our medical schools. In all but two or three colleges in the United States it is in charge of the chair of nervous diseases. The professor in charge already has his time too fully occupied to devote to this important subject such attention as it deserves, and as a result many of our graduates from reputable medical colleges know much less of psychiatry than do graduates from literary colleges who have done any work in psychology. Not only is this true, but in those colleges where didactic lectures are given, the student sees at the most very few actual cases of insanity of any form, to say nothing of a clinic comprising anything like a comprehensive classification of the many different forms of psychoses.

The percentage of the insane among the physically ill is large. The general practitioner is bound to encounter during his practice a considerable number of patients who will have either coincident with other troubles, or independently, some form of mental aberration. It is of extreme importance that such conditions should receive early recognition and treatment. The diagnosis, with the course and probable duration of the trouble must be given to the family of the patient. The possibility of the accomplishment of these things can be secured only by giving to the medical student a higher education in psychiatry.

On the other hand, while it is true that the establishment of an insane asylum at Ann Arbor would be of great benefit to the University and the medical department in particular, it is also true that some benefits would redound to the institution. The University medical faculty is of necessity made up of specialists, all of whom stand high in their respective branches. Through these men could be secured to the patient in the Ann Arbor Insane Hospital special attention and treatment in all lines.

THE GLORIOUS CLIMATE OF THE LAKE SUPERIOR REGION.*

BY THEODORE A. FELCH, M. D., ISHPEMING, MICHIGAN.

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IT is but natural that one should sing the praises of that section of the country in which he has an habitation and a name. Indeed, that is but one way of expressing his feelings of patriotism, for to most men the world is confined to the limits of their town; to some to the confines of their county; to very, very few to the boundaries of their state. Young America is noted as being of a somewhat roving disposition. He settles in Florida or Alaska, and adapts himself to his surroundings. Supposedly he stays in that place whose environments agree best with his well-being, for all considerations yield to that of health. So that while there are many men of many minds and each may find that particular locality in our vast country which best suits his individual tastes, still, speaking for ourselves and after a long experience, we must maintain that the climate of the Lake Superior region has very many points of excellence which are just beginning to be recognized. No one would presume to call it an ideal climate. It is far from that. Yet to the sick and well it has beneficial effects all its own. We know that the majority of people in other places regard Lake Superior as being somewhere up under the Arctic Circle, and as a near neighbor of the Klondyke. But with the advent of more popular travel and education such stale jests are losing their point, and we may indeed congratulate ourselves that we live in a temperate zone when we hear Greenland spoken of seriously as being made a popular summer resort. And then there is Chicago, where the winter's wind will freeze the marrow in the bones of a Lake Superior man, and the summer heat will discount the heated term in the Phillipines, and yet the Chicago papers call the place a summer resort! And they are right in so saying. The winds that blow over Chicago from the broad country north and northwest and from the vast expanse of Lake Michigan, arise from sources which are uncontaminated by art or nature, and bear not only health and vigor but also healing on their wings. No wonder her people show uncommon energy and virility! They cannot help it. But, after all, what of the best of these things has Chicago that she does not get from Lake Superior? She gets the fag end of the most health-giving air known; she has the water level of Lake Michigan maintained by Lake Superior to crown her the "Queen of the Inland Seas;" she even engineers a scheme to pipe the water of Lake Superior these hundreds of miles to get what she well knows is the purest water on the face of the earth. Chicago and all the world are welcome to all we have. The supply is perpetual and unlimited.

It is the province of medicine to conserve a healthy body as well as minister to a diseased body, and the appearance of the physician much more frequently in the former role augurs well for the future healthfulness of the race. Unfortunately our knowledge of climatic therapeutics is as yet in a somewhat confused state. But there are a few facts which we do know, and one of them is that an abundant supply of pure atmospheric air is an absolute *sine qua non* of an ideal animal existence. Nature intended us to use this air to its fullest extent by providing us with lung capacity for not only taking in all that we would need in ordinary circumstances, but she also, by providing an extra amount of lung tissue, prepares for extraordinary circumstances. If we, then, breathing creatures, refuse to heed the plain intent of nature; if through indolence or habit we habitually furnish work and food for only one-third or one-half our normal lung capacity; if we construct our houses in such a manner as to hinder the escape of confined impure air and the ingress of outdoor air, then we may be sure that there will be no place in the wide world but that will furnish its full quota of cases of pulmonary tuberculosis. And it is because the evil influence of these things is recognized, that the most rational and successful treatment of tuberculosis is hygienic and climatic.

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*Read before the UPPER PENINSULA MEDICAL SOCIETY.

But what kind of a climate? It is well to mention here that the consensus of medical opinion does not lay as much stress as formerly upon this or that locality; that under sanatorial restrictions and regulations each district may become the best place in which to treat its own tuberculous sick. So it is that we see sanatoria for consumptives located in the heart of cities, as in London. There is no doubt but that the treatment of consumptives in hospitals is a long step in the right direction. That their establishment and support by National, State, or County government will soon follow seems certain. When that time shall come in Michigan where will be found more favorable environments than in the Upper Peninsula? The air we breathe comes to us fresh from Nature's laboratory, over miles upon miles of forests and lakes and hills uncontaminated, unconfined, exhilarating as a wine. No stagnation of the atmosphere occurs as the wind blows from any or all parts of the compass on frequent occasions, and never becomes tornadoes. The frequent thunder storms in summer with the vivid lightning serve to clear and purify the atmosphere and prevent dust storms; while in winter the snow storms and the continuous blanket of snow serves the same purpose. It is important to note that on the advent of winter the cold weather and the snow are here to stay during the entire season—not alternate freezing and thawing, mud and ice. The prejudice against the winter season is nearly universal, therefore it is most pleasant to find a champion for winter in our own delightful poet, JAMES RUSSELL LOWELL, who in his charming style says, "I think the old fellow has hitherto had scant justice done him in the main. We make him the symbol of old age or death, and think we have settled the matter. As if old age never were kindly as well as frosty; as if it had no reverend graces of its own as good in their way as the noisy impertinence of childhood, the elbowing self-conceit of youth, or the pompous mediocrity of middle life! As if there were anything discreditable in death, or nobody had ever longed for it! For my own part I think winter a pretty wideawake old boy, and his bluff sincerity and hearty ways are more congenial to my mood, and more wholesome for me, than any charms of which his rivals are capable!" Those are the words of an enthusiastic lover of nature in all her moods, and while we would not go to a poet for a prescription for climate we can quote him further with great benefit thus: "Charles II, who never said a foolish thing, gave the English climate the highest praise when he said that it allowed you more hours out of doors than any other, and I think our winter may fairly make the same boast compared with the rest of the year. Its still mornings, with the thermometer near zero, put a premium on walking. There is more sentiment in turf, perhaps, and it is more elastic under foot; its silence, too, is well nigh as congenial with meditation as that of fallen pine-tassel; but for exhilaration there is nothing like a stiff snow-crust that creaks like a cricket at every step, and communicates its own sparkle to the senses. The air you drink is *frappè;* all its grosser particles precipitated, and the dregs of your blood with them. A purer current mounts to the brain, courses sparkling through it and rinses it thoroughly of all dejected stuff. There is nothing left to breed an exhalation of ill humor or despondency!" Thus with these choice words our poet expresses that feeling of buoyancy, of superabundance of animal spirits which our winter weather excites. Especially do visitors and convalescents note the immediate stimulating effects of the winter air. Many on coming north will tell you the exact moment when they strike a strata of air from the Northern Lake region. So pronounced is its individual qualities! We who are residents of this upper lake region know that the poet is again right when he says that winter is not the time for dreary seclusion; on the contrary it is the season of the most enjoyable outdoor sports, of social relaxation and family companionship. We thus see that very kind words can be spoken for even our rigorous winter and it is evident that its virtues can be trained to be a medicine to the sick. We have only to know that warm air is not necessarily impure, nor cold air necessarily pure, but that pure air can either be warm or cold.

This is where the sanatorium idea finds a field. Being outdoors all of the time means life to the consumptive. It is because the climate of Southern California and Arizona permit of such outdoor life that their great reputation in the treatment of tuberculous patients obtains. Sanatoria for consumptives are made with the view of moderating extremes of temperature for their inmates; furnishing pure air at a proper temperature; getting all possible benefit from rays of light and heat, natural and artificial, and employing all hygienic means known. While having no medicinal springs in the true sense of the words, we have what is better—pure soft water and plenty of it. Considering, then, all of these things I see no reason why such a sanatorium in this Upper Peninsula should not show as good results as obtain in other places, perhaps better.

But what is to be said for the summer season in the Upper Lake region? Let those who are occasional or regular visitors answer. Often have I heard them compare this with the mountain air of Colorado. The "dog days" bring no terrors for they either are not in evidence or can tarry at most but a few days, while hot weather, long continued, is necessary to produce a great prevalence of acute intestinal troubles. *That* we do not have, and the morbidity from these diseases is correspondingly light. But the effect of this pure atmospheric air upon the victims of that peculiarly distressing disease "hay fever," is a constant source of astonishment. Whatever may be the etiological factor in this disease, whether pollen of plants or some other supposable cause, the relief of symptoms is prompt and lasting while the patient remains here. The Western Hay Fever Association has ascertained this and has chosen Marquette as its place of meeting for the past two years.

And again, the cool nights conduce to sleep. "Sleep, Silence's child, the father of soft Rest is," as LOWELL says, "a very agreeable acquaintance, and most of us are better employed in his company than anywhere else." His is the very best medicine the sick and convalescent can have.

The text-books have always mentioned the fact that cases of acute pneumonia are much more frequent in the Southern than in the Northern states. Why this should be so is probably because a severe climate compels people to protect themselves with proper clothing and shelter, fires, and heat-producing foods, which fortify the system against the disease. A vigorous climate thus provided against becomes a prophylactic agent of the greatest value as regards pneumonia.

And there is still another enemy to mankind that can gain no foothold in the beautiful Lake Region—malaria. Malaria is more especially a tropical disease and does not flourish in high latitudes and mountainous districts. You are all familiar with the recent studies in malaria. From these we may well admit that the mosquito is the intermediary host of the malarial parasite. Our woods and streams and marshes swarm with mosquitos and still there is no malaria. Why? Probably because our so-called marshes are of such limited extent that many of them become dry by evaporation and drainage during the summer months, and "the mosquito cannot continue to breed where swamp water is not continually present the year around." The fact that our swamp water is in the form of ice for five months in the year imposes an effectual barrier to the rapid propagation of the pestiferous insect.

The foregoing are some of the reasons why we claim that the climate of the Lake Superior region is a glorious climate. We believe that it will compare favorably with many better known regions. We anticipate that in future years it will be appreciated at its true value. The days when a PONCE DE LEON can seriously seek remote regions in search of a place where youth and health reign eternal is past. We are learning that that which is best for us lies nearest to our feet. This broad continent of ours has all varieties of climate to offer and Art has shown us how to bend the most adverse conditions to our liking.

SOME POINTS ON THE NATURE AND TREATMENT OF ACNE.*

BY JOHN A. WESSINGER, M. D., ANN ARBOR, MICHIGAN.

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ACNE is the most frequent of skin diseases. Only during the past two years, however, has any marked degree of light been thrown upon the nature of the lesion under consideration. In dermatology, as well as in other branches of medicine, bacteriology has been liberally invoked to establish an etiology for almost every form of lesion, acne being no exception to the rule. However, for the purpose of argument, let it be granted that acne has a bacteriology. It is only necessary to penetrate the surface in order to demonstrate the fallacy of some very strange notions relative to the rôle that certain cocci play as cause of acne, as well as of many other pustular affections of the skin. "Ever since the discovery of the pyogenic staphylococcus it has been claimed that this germ is responsible for the occurrence of acne." Statements to this effect occur in many text-books, and even an eminent authority like PAYNE, of London, says that "To facilitate the cure of acne it is necessary to keep the scalp thoroughly clean, because the staphylococcus occurs abundantly as a saprophyte in human dandruff, and is transferred very readily to the integument of the face by the patient's fingers." It is very difficult to understand how these views should have been accepted, for the tyro in bacteriology knows that the suppuration in acne does not manifest staphylococcic qualities. For instance, acne never infects in any sense, the lymph-chains are never involved despite the number and severity of the acne pustules, and metastases are unheard of; the ordinary acne pustule is not followed by destruction of tissue and scarring, except in cases of mixed infection; finally, acne is never inoculable, and never causes or results from other pustular or purulent lesions. One need not be surprised to often find the staphylococcus in acne lesions or acne pus—for this coccus is ubiquitous—but there is abundant reason for believing that this organism is not a factor in the etiology of acne. A few years ago Unna thought he had found the true acne germ—a peculiar bacillus which produces both the comedo and the pustules—but he was unable to cultivate the organism. Another observer held that Unna's bacillus was closely allied to the colon bacillus, and only present in acne as a saprophyte, the true cause being the staphylococcus epidermidis albus, which produces the "stitch abscess" of the surgeon. Gilchrist, in a recent publication, has also quite conclusively shown that a bacillus (Unna's bacillus) is always present in acne, and undoubtedly is a conspicuous figure at the inception of the disease. But if a peculiar bacillus is the sole causative factor of acne, it would be interesting to have some one explain why acne is essentially a disease of juvenile life? Why does it cluster so closely around the age of puberty? If germs produce the disease, why does it not occur in little children, in middle life and in old age?

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*Read before the WASHTENAW COUNTY (Ann Arbor) MEDICAL SOCIETY.

Without inflicting too great digression, these thoughts may be profitably paralleled with former ideas regarding another very common skin disease, namely, impetigo contagiosa. Notwithstandging this affection was originally classed as a staphylococcic disease, and is even now claimed to be such by the English, it has been quite conclusively shown that while the staphylococcus may be able to cause a variety of impetigo pustule as an accompaniment of boils and sycosis, it is only by accident, or secondarily, that the germ appears in impetigo contagiosa. Clinically, impetigo, like acne, presents none of the conditions that should appear were the condition due to the staphylococcus. Recent investigators have persistently found streptococci in an apparently pathogenetic relationship with impetigo contagiosa. Gilchrist, again, is the most recent authority to declare that a form of streptococcus is the actual cause of the disease. Can this virulent germ be so attenuated as to produce so mild an affection as impetigo? It certainly does not appear possible that this can be the ordinary streptococcus pyogenes, because the rapid passage of this germ through so many children ought to arouse the virulence of this somewhat malignant organism. At the present time the streptococcus pyogenes is held responsible for erysipelas, scarlatina, and perhaps small-pox. If this be true, how can we draft so virulent an organism into the etiology of so mild and harmless and so frequent an affection as impetigo contagiosa?

The treatment of acne will be narrated briefly, leaving out of consideration all ordinary, and oftentimes necessary, internal medication, and confining myself to only one method of local treatment—the static spark. If the following be correct pathology, then it will be readily seen why the static spark is effectual in the treatment of acne. Granted, that a peculiar bacillus acts as the causative factor of acne, enters the follicle, and by its presence stimulates the vasodilators of the follicular and perifollicular circulation with resulting stasis and blood-cell diapedesis, this serving in turn as pabulum for the nurture of the invading organism and in case of a mixed infection, suppuration, and even destruction of the gland. Now, the *modus operandi* of the static spark is directly opposite to this process. It stimulates the vasoconstrictors of the vasomotor nervous system, and hence a decided blanching of the part acted upon. The blood current is hastened, and the nutrition of the gland returns to normal, for, in other words, "in the static current we have one of the greatest stimulants to metabolism." This blanching process is at first only temporary, but after repeated seances it becomes permanent. The papule becomes shriveled, a more or less marked exfoliation takes place, and finally the part returns to normal. The patient is usually given from three to six daily sittings, and then returns on alternate days. While a definite time-limit cannot be specified for the method, yet comparing it with other modes of treatment, and speaking with a limited experience, it may be said that the static spark, when properly applied, is a rather rapid method of relieving this annoying condition. In the adverse criticism of the method it must be said that quite marked pain results when the long spark is used, while if the spark is too short we get no result. It therefore requires some practice to get the proper spark-length. One-fourth inch is usually the best spark-length in these cases. While the spark-length may cause some pain, yet we doubt if this is any more severe than results from that very efficient instrument in the treatment of acne, the dermal curette. Then, again, the general practical value of the method might be questioned on account of the rather expensive equipment required.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MAY 29, 1899.

THE PRESIDENT, CHARLES DOUGLAS, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

REPORTS OF CASES.

PRACTICE OF THEODORE A. McGRAW, M. D.

A CASE OF STAB WOUND OF THE RIGHT PLEURA AND LIVER, WITH RECOVERY.

A MAN, aged fifty-two years, was stabbed on December 15 in the right side a little behind the axillary line and at the level of the twelfth rib. The wound was inflicted, it was said, with a large pocketknife, and was externally an inch in length. It bled profusely and when he was brought to Saint Mary's Hospital he was quite exsanguinated. He was ghastly pale, his pulse was 120 in the minute and very weak and small, and his extremities were cold. He was stimulated with hypodermatic injections of strychnia and digitalis and rectal injections of beef tea and brandy. The normal saline solution was injected subcutaneously into the thighs. He was put under chloroform and the wound and its neighborhood were rendered as aseptic as possible. Enlarging the wound, I found that it had passed upwards, cutting the eleventh rib in two and penetrating the pleural cavity. The hemorrhage from within this cavity was purfuse and I therefore opened it up freely, making an orifice through which I was able to insert my hand. I found then that the knife had perforated both layers of the pleura and had made a wound on the upper surface of the liver, about six or seven centimeters in length. This wound was bleeding freely, and as time was of great value I stuffed four aseptic towels into the pleural cavity in order to stop the hemorrhage. One of the towels was pressed with great force into the liver wound and the others forced around it in such a way as to exert great and constant pressure. The wound was necessarily left open but dressed aseptically. The patient was put to bed, surrounded with hot bags and thoroughly and systematically stimulated. The next morning I found that he had rallied, had a good pulse and no fever. He complained of pain across his entire abdomen but the abdomen was not swollen and he did not vomit. On the third day I removed the towels. They were all stained with blood but the one next to the liver, which was yellow with bile. He has since made an uninterrupted convalescence. He has no fever and is beginning to sit up. I should have said that he at no time coughed up any blood. Before the injury, he had suffered from a mild degree of bronchitis, which continued afterwards. The right lung collapsed of course after the stab but is now beginning gradually to expand. This case illustrates the principles on which such wounds should be treated. A free incision, with free drainage, and firm compression to check hemorrhage offer the best hope of recovery.

A CASE OF IDIOPATHIC GANGRENE.

A case of idiopathic localized gangrene, which is now in Saint Mary's Hospital, has puzzled me greatly. A colored man, aged fifty-two years, two years ago had a sudden paralysis of the extensors of the left forearm. He is a stone mason by trade and has never, as far as he knows, been exposed to lead poisoning. Doctor Inglis, who atended him then, diagnosticated his trouble as such and treated him with electricity. He recovered completely and has now full use of his hand. There is no lead line around the gums and he has never suffered from lead colic. On December 7, 1898, while sitting in a chair apparently in perfect health, he was seized with a sudden pain in the left knee, so violent as to cause him to fall on the floor. He did not hurt the knee in the fall and has at no time applied irritating or caustic lotions or plasters to it. The skin soon became disclored and he continued to suffer great pain in the knee. On December 25, he entered Saint Mary's Hospital. I found him, on examination, to be a well preserved man with good muscular development. His pulse was about 100 per minute and his temperature ranged from 99.5° to 101° Fahrenheit. There was on the front of the left knee a spot of gangrenous tissue extending all around the patella in a circle, about fifteen centimeters in diameter. A line of demarcation had begun to form. His heart sounds were normal and its impulse was felt in the right place. Repeated examinations of his urine showed nothing abnormal. There was no apparent change in the arteries at the wrist. The posterior tibial could not be felt behind the inner malleolus. Since then the patient has continued with no other change than a gradual deepening of the line of demarcation. He suffers extreme and constant pain and has a fever ranging in the twenty-four hours from 99.5° to 101° Fahrenheit. Now, the history of this case, with its sudden onset and terrific pain, would seem to indicate the occurrence of an embolism, but I am puzzled to know where an embolism could lodge to cause such symptoms The integument over the knee is richly supplied with blood from at least five different branches of the femoral and popliteal. We cannot suppose that they would all suffer a simultaneous occlusion. On the other hand, if either the femoral or popliteal were obstructed to such an extent as to cause gangrene of the knee, the foot and leg would inevitably suffer the same disaster. The absence of sugar from the urine would seem to exclude diabetes were it not that there are forms of diabetes in which there is only an intermittent glycosuria. I cannot think the case one of lead poisoning, and must confess that I am entirely at sea as regards its pathology. I am as yet uncertain as to the depth of the slough. If it should involve the joint amputation will be the only recourse.

A CASE OF PYLORECTOMY.

A MAN, aged forty-eight years, had been a dyspeptic for many years. Within the past year he had grown steadily worse. During his long illness he had learned to wash his own stomach out and did so whenever he felt particularly bad. He never vomited and never showed symptoms of obstruction. In October last he first noticed a tumor in the epigastrium which grew rapidly. During the past six months he had lost some forty pounds of flesh. On washing his stomach out there was discharged a dark foul fluid. DOCTOR AARON examined the secretions of the stomach and found an excess of lactic acid but no hydrochloric acid. The tumor seemed movable and on account of the absence of all symptoms of stenosis was diagnosticated as one of the greater curvature. I was surprised to find on opening the abdomen on December 4 that the tumor involved the entire lower third of the stomach, completely surrounding it. The patient had seemed in better condition than the usual run of patients with cancer of the stomach when they fall into the hands of the surgeon and I hoped that he might stand the operation of pylorectomy. I removed the diseased portion of the stomach and about an inch of the duodenum and made a gastic-enterostomy, connecting the stomach with the duodenum. The patient lost very little blood during the operation but died of shock within an hour of its close. The specimen which I present is unique inasmuch as it exhibits a cancer involving the entire pylorus without obstruction. The ulceration of the tumor kept pace with its growth and the orifice of the pylorus is even larger than normal.

REMOVAL OF AN ABDOMINAL TUMOR.

A MARRIED woman, aged forty-two years, had noticed a growth in the abdomen two years ago. She had since then consulted no physician but allowed the tumor to grow without interference. She consulted me on Monday, one week ago. I found a stout woman with an enormous abdominal tumor reaching from the pelvis to the ribs and projecting a foot in advance of the ribs. She was otherwise in good health and showed none of the facial emaciation and expression which we are accustomed to associate with an advanced ovarian tumor. The uterus was apparently normal. I operated and removed the tumor which I now show you. It was covered with an adherent omentum whose veins were distended to the size of my little finger. The dissection of the tumor from the adherent surroundings was very slow and difficult. The tumor was of that semisolid variety whose walls were very vascular. It was impossible to diminish its volume by tapping and I had to make a very long incision through the abdominal wall in order to get the tumor out. The patient is doing well.

AN APPENDIX ADHERENT TO A LIGAMENTOUS CYST.

THIS specimen is an appendix which is only peculiar in this, that it was adherent to the wall of an intraligamentous cyst. The patient, a woman of forty-seven years, had been a patient of DOCTOR MINER, through whose courtesy she came into my hands. She had been ill many months, and had at one time discharged pus from the rectum. She had suffered with chills and fever a short time before I first saw her, but had been free from fever for several days. There was a tumor in the pelvis as large as the head of a newborn child. The history of the patient and her great prostration led us to diagnosticate abscesses of the tubes, but on opening the abdomen I found instead a large intraligamentous cyst, to whose wall this appendix was attached. The cyst was removed with difficulty, and the patient was afterwards very much exhausted but is now doing fairly well.

PRACTICE OF H. E. SAFFORD, M. D.

PERFORATION OF STOMACH DUE TO ULCERATION.

ON Sunday, February 26, between 9 and 10 A. M., I was called to see S. G., aged seventeen years, a nurse girl in a family which I attended, and found her in bed much exhausted by protracted vomiting which had begun about 3 o'clock A. M. Nothing could be retained for any considerable time. There was pain in the abdomen complained of at the upper part and some tenderness was quite generally distributed. It was more marked on pressure over the region of the bladder. The patient was having some trouble in retaining the urine, and at the end of the first day said she had been obliged to void it as many as a dozen times. The temperature at this time was 100.2° and the pulse 104. The previous history of the case revealed nothing definitely related to her present condition up to about two weeks previous to my being called. There had been no pain nor local tenderness and no vomiting. The menstrual conditions had been regular, it was said, and the bowels had often been somewhat constipated of late. At the time two weeks previous just mentioned she had believed herself to have had an attack of influenza, which gave her pain in the back and general symptoms from which she seemed to improve, but at different times she had continued to be nauseated and even had vomited occasionally. Her menstrual condition developed on Thursday, February 23, and continued until the Saturday morning following. About this time she had indiscreetly gone out into the weather and exposed herself, and the above result was attributed to it. The menses had appeared about a week earlier than her usual time. These irregularities, the vomiting, and the incontinence of urine had aroused the fears of her mistress that something questionable had been the cause of the whole disturbance. When I was called no such condition could have been claimed on the evidences presented to me by the case. There was no discharge nor evidence of bleeding; and in fact at no time was any such evidence present except once, two days later, when a clot, small and not foul, was observed, which had evidently been retained at the time the menstrual discharge had ceased. I still held in my mind the possibility of an infection having reached the peritoneum from this source. The feeling of the cervix, as examined the next day, was noted by DOCTOR McKEAN and myself to be not quite so firm as might be expected, but there were no breast changes, even the slightest, and other symptoms were wanting to confirm any suspicion that those around her may have entertained. The bowels, as I have said, were constipated, having been evacuated but once within a week. One and one-half grains of calomel in one-fourth grain doses was given at once, and one-half grain of morphine sulphate was ordered to relieve the pain. Of the latter, six doses were ordered prepared and "one to be given at once; others only on direction." When I returned later in the day I found they had given the girl three of these altogether, but I contented myself with the fact that there was good authority for even this heroic treatment since the patient showed no untoward effects. I had ordered enemata and these were repeated, and the attempt at mild purgation without unduly stimulating peristalsis was made. The opium was ordered discontinued. The vomiting of the first day was fairly controlled by small doses of bismuth, but continued occasionally and later became again violent. It was from the first bile-stained, and two days later was continually stercoraceous. At this second visit the temperature was 100.8°; pulse, 106. At 9 o'clock the next morning there was little change in appearances. The temperature, however, had gone up to 102° and pulse to 116. The enemata and other measures had been successful in only a slight degree. At 7 P. M. I saw her condition was in little prospect of immediate improvement and as the parents, as well as the family where she was staying, would be greatly convenienced by having her moved to her home, I called in DOCTOR McKEAN to see her with me. We found her at 10 P. M. with temperature slightly lower and pulse better. It was decided that she must be moved then if at all, and Harper Hospital ambulance was called and I took her to her home. She seemed to bear the moving well, and from that time until the next noon was favorably affected by being in her own home. In the afternoon, however, the pulse became more variable and the temperature was again at 102°. In the evening the pulse was 130, and at 11:30 P. M. temperature was 102.7°. On Wednesday morning the temperature was 103.7° and pulse 120; at 4 P. M., 104.3° and pulse 130. During the afternoon of Tuesday DOCTOR SUMMERS had been called to see the case with me, and DOCTOR McKEAN also came a second time. It was decided, at DOCTOR SUMMERS' suggestion, that the catharsis be more actively pushed by means of five-grain doses of calomel until it was certain that enough had been long enough retained to permit of absorption. The use of this drug was continued through the early part of Tuesday night, during which in all twenty-five grains were taken and were almost as readily rejected; and these measures produced at last some appearance of peristalsis in the right direction, but not without repeated enemata of salines in strong solution. The movements even then were not excessive, and the pain was not particularly increased. Pain, in the last two days, was naturally less than before, even though no anodynes were given. The pain which was most persistent was that in the sides, although tenderness was general. Distension was at no time a prominent feature. At 6 P. M. on Wednesday the temperature was 104.4°, and at 2 A. M. Thursday she died. At the postmortem DOCTOR McKEAN was present and assisted me, and DOCTORS SUMMERS and W.

R. HENDERSON were present, each for a part of the time. On opening the abdomen the odor was not strikingly offensive, but the organs in every part were bathed in a purulent exudate, and in many parts the organs were separated by thick layers of a cheesy or fibrinous material. The peritoneum was of course in places adherent, and the omentum was a thick, heavy mass of lymphatic structures. The adhesions of the parietal layer of peritoneum were firmest at the sides and behind the stomach, and when these were broken away the same kind of fluid welled out which the patient had so long been vomiting. On turning up the stomach the posterior surface revealed the perforation through which the infection had entered the peritoneum. From within the stomach the wall was seen to be, as it were, punched out for an area of perhaps a little more than a centimeter. The floor of the ulcer was of dull greenish gangrenous appearance. The edges of the ulcer were rounded and somewhat overhanging and the process was evidently one of long standing. The spleen was enlarged and congested; the bowel of itself was remarkably free from signs of internal inflammation. It was involved only in a comparatively small area. The appendix was healthy. The Fallopian tubes, and especially the fimbriated extremity of each, were congested in much the same way and the peritoneal surface of the uterus as well. The parturient canal, however, showed no signs of undue or unnatural disturbance when the uterus was opened. The purulent fluid obtained from the peritoneum showed, when dried and stained, a mass of leucocytes and fibrinous material and apparently almost a pure culture of streptococci. This condition was of course possible only by reason of the fact that the original seat of infection had been more or less perfectly walled off by adhesions and a mixed infection thus prevented.

PRACTICE OF WILLIAM F. METCALF, M. D.

FIXATION OF KIDNEY, AND REMOVAL OF FIBROID UTERUS, TUBES, AND OVARIES.

MRS. W., aged thirty-seven years. I first saw her about two years ago. She then gave a history of having had diarrhea for several years. She was so much reduced as to be confined to her bed nearly all the time. Perfect quiet in bed lessened the severity of the diarrhea. I then found a movable right kidney, marked retroversion of the uterus, laceration of the cervix uteri, and a very small intramural fibroid. She suffered so much pain in the right side that I was induced to fix the kidney first, and simply curretted the uterus. Her diarrhea was cured at once and has not returned. The flow, which was not profuse at that time, gradually increased, until six months ago it became almost constant, there being only three days between the beginning of the last period and the close of the preceding one. This morning, through the vaginal passage, I removed by dissection the fibroid uterus, tubes and ovaries, finding it necessary to ligate only four or five bleeding points. The patient suffered no shock or nausea, and is in as good condition as before the operation.

AN OPERATION FOR GALL-STONES.

ON December 20 I exhibited here seventy-eight stones which I had removed from the gall-bladder of MRS. L. Pus being present the bladder was attached to the abdominal wall. When the patient left the hospital at the end of the third week she had some pain, though not so great as before, and a biliary fistula. On February 22 she was no better, and returned to the hospital. I made an exploratory incision. The liver was enlarged, extending to the pelvis. The gall-bladder, much enlarged, was not only firmly adherent to the abdominal wall, but to stomach and duodenum. Not wishing to break up these adhesions, I incised the gall-bladder to its full extent, pulled it up as high as possible into the abdominal wound, and passing one finger through the adhesions to the stomach, down to the common duct and behind the stone, I pushed it forward, turning the bladder inside out, and enlarged the duct from the bladder to the stone forcing it out through the bladder. The opening into the bladder was partly closed and the peritoneum stitched around the opening left and gauze drainage used. Marked shock followed, but the patient rallied and has since been improving. A slight biliary fistula still exists but is closing rapidly.

PRACTICE OF ERNEST L. SHURLY, M. D.

LARYNGECTOMY.

THIS is the laranyx of Miss E. H., aged forty-six years. She gave a history of progressive hoarseness, dyspnea and dysphagia, covering a period of about six months. At the time of her first visit to me, in company with DOCTOR HOWELL, of Tecumseh, she was weak, very much emaciated, aphonic, and suffering from great dyspnea and dysphagia. The two latter symptoms rendered her life miserable from inability to get air and take food. Laryngoscopic examination was difficult. She almost expired during the manipulation. The diagnosis was of a malignant growth. The outside lymphatic glands were not involved apparently. Immediate tracheotomy was advised, and then a thyreotomy or laryngectomy. The latter operation was done, GAILEY'S inhaler being used in administering the anesthetic.

PRACTICE OF J. HENRY CARSTENS, M. D.

CELIOTOMY IN THREE CASES OF PREGNANCY.

Case I.—MRS. M., aged twenty-one years, mother of one child, had suffered with pain in the pelvis for six weeks. I examined her and found a tumor in the cul-de-sac. She had a temperature varying from 99° to 100°. The growth was supposed to be an enlarged pus tube. The uterus was large, the cervix soft, and as she had not menstruated for over two months, I diagnosticated pregnancy with tumor, probably of a pus tube. Delivery could not take place at full term, so an operation was required, which I performed before the class. A large growth, about the size of an ordinary fist, was easily enucleated from the cul-de-sac, and just as I was lifting it out of the abdomen it ruptured and a small fetus escaped. It was a case of extrauterine pregnancy. The pedicle was tied and the abdominal cavity cleansed in the usual manner. The uterus was very large and soft, and evidently pregnant also, which makes this a very unique case. The abdomen was closed with catgut in layers, and the patient has made an uninterrupted recovery. There has been slight discharge of blood from the uterus but no evidence of abortion.

Case II.—MRS. J., mother of one child, twenty-two years old. This patient has noticed an enlargement of the abdomen since the beginning of the year. She had ceased to menstruate, and been examined by two or more physicians who diagnosticated a tumor. She thought, however, that she was pregnant and felt life. On examination the uterus could not be felt, the abdomen was very tense, and there was distinct fluctuation and hard nodules in various places throughout the abdomen. I could not detect pregnancy, and considered it a puzzling case. Thinking the condition might be malignant—a cysto-sarcoma and perhaps also pregnancy, I suggested an exploratory operation, saying that if the patient was pregnant it would do no harm to remove the growth if it could be done. I operated, and found a pregnant uterus containing a great many fibroid tumors, from the size of a chicken egg downward, but encountered no fluid except that in the uterus, which was very much distended. As it was impossible to remove the fibroids all, in fact useless and dangerous, I simply sewed up the incision. She made an uninterrupted recovery, and on the sixth day was prematurely delivered of a healthy child, and has had no unfavorable symptoms since. With one exception, this is the first case of pregnancy which had a premature delivery after abdominal section.

Case III.—Mrs. T., aged twenty-six years, has had three attacks of appendicitis since April, and only just recovered from the third attack. Patient was four and one-half months pregnant when brought to me from one of the interior towns of the state. I operated and removed the chronically inflamed and extensively adherent appendix in the usual manner, and she has made an uninterrupted recovery.

PRACTICE OF EMIL AMBERG, M. D.

REPORT OF A CASE OF OTITIS EXTERNA ASPERGILLINA WITH EXHIBITION OF THE ASPERGILLUS.

The time is so far advanced that I will only say very few words about a case in which I observed an otitis externa aspergillina. The patient came recently under my care, convalescent from an otitis media with perforation of the drum membrane. Aspergillus in the ear is reported not to be very uncommon in Germany and the United States. The specimen, a growth on gelatin, shows the aspergillus niger. The microscopical examination proves that the diagnosis is correct. The aspergillus is not necessarily confined to the external meatus. It has been observed that it wandered into the tympanic cavity through the membrana tympani. Doctor Eugene Smith told me of a case of this kind which he saw here. The treatment sometimes is tedious. It has been recommended to treat patients with an otitis externa aspergillina for a whole year, at long intervals, even after they do not show any symptoms of the disease. In a case of otitis externa caused by the aspergillus, it might occur that the patient seems to be cured, and after a while he might come back with the same trouble.

PRACTICE OF ANGUS McLEAN, M. D.

STRICTURE OF THE ESOPHAGUS.

The specimen I present to you this evening is the stomach and lower portion of the esophagus of a man aged forty-nine years. The history of the case extends over a period of twenty years. He at about that time was taking some boxes off a high shelf in a store, and a box fell off the shelf and struck him over the lower portion of the sternum and epigastric region. He noticed shortly afterward that he had some slight trouble in swallowing, but not sufficient to cause him to consult a physician. Last August this difficulty became more annoying, and he began to lose weight. He consulted a physician and was advised to diet himself and take a trip to the seashore for the benefit of his general health. He acted upon the advice, but returned with his condition unimproved. He then went to one of the sanitariums in the state, and had his trouble diagnosed as irritation of the solar plexus with spasmodic stricture of the esophagus. He was put upon a stringent diet, and kept exercising in the gymnasium the greater part of the time. He lost about thirty pounds in three weeks, became discouraged with the treatment and returned home. I saw him first on October 16, and tried different esophageal bougies. The largest I could pass into the stomach was a number ten English. The size was increased until a number thirty-two was passed. He then swallowed liquid food quite easily and gained several pounds. The contents of the stomach were analyzed, and free lactic acid found, hydrochloric being entirely absent. The presence of free lactic acid and the absence of hydrochloric acid when the stomach is not involved, is unusual. (This analysis was made by DOCTOR HENKEL). The patient was seen several times by DOCTOR L. BRIESACHER and DOCTOR STEINBRECHER, and later by DOCTOR GEORGE DOCK, of the University of Michigan. The diagnosis was correctly made as shown by the specimen. He was kept on palliative treatment, and at no time suffered any pain whatever. He kept around all the time, being down town until a few days before he died. He died December 29. Cancer of the esophagus is rare as compared with cancer of the stomach, the proportion being one to three hundred and sixty. There have been several cases reported of esophagectomy of the cervical portion, but no attempts have been made to remove the lower third. External violence and traumatism have been mentioned among the causes of cancer of the stomach, but it is difficult to connect those causes with cancer of the esophagus.

PRACTICE OF H. O. WALKER, M. D.

PYLORECTOMY.

THIS specimen was recently removed from MRS. R., aged thirty-six years, and consists of about one and one-half inches of the pylorus and about one and one-third of the pyloric end of the stomach. In this part removed is to be found a hard nodular growth, presumably carcinoma, although not yet verified by microscopical examination. The history of the case is as follows: For the past four years there has been a gradual decline in health, mostly due to trouble of the stomach. During the last year she has vomited at times a dark material. For the past six weeks she has been unable to retain any food whatever. She is extremely emaciated, with marked cachexia. Palpation revealed a movable tumor beneath and below the ensiform cartilage, sensitive to the touch. (Test breakfast and analysis by DOCTOR AARON). Her temperature was generally above normal; pulse at time of operation 120, feeble, and difficult to find.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, APRIL 27, 1899.

THE PRESIDENT, ROBERT H. HONNER, M. D., IN THE CHAIR.
REPORTED BY WALTER J. CREE, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR FRANK D. SUMMERS read a paper entitled "Ectopic Gestation." (See page 455.)

DOCTOR PATTON: The paper is certainly an interesting one as it particularly points to the importance of an early diagnosis of these cases.

Doctor Stevens: In these cases operation should be done at once, before rupture takes place.

Doctor Gunsolus: I have never met with a case, but saw an operation intended for appendicitis and the appendix was found in a normal condition, but an extrauterine pregnancy was the condition present.

Doctor Mulheron: The apparent increase of these cases is due to the improved methods of diagnosis. Several years ago I operated on five cases, one resulting fatally from shock, twelve hours after. Since that time I have met with none.

Doctor Weitz: Late marriage, say after thirty years of age, where the woman becomes pregnant for the first time, or after a woman has not been pregnant for a number of years, are predisposing factors in ectopic gestation. There is likely to be a history of abnormal menstruation as to quantity, quality, time of appearance, temporary stoppage, et cetera. There will be in connection with these symptoms pelvic distress. The various symptoms of pregnancy affecting other organs should be inquired into and a careful examination should be made to see if abnormal pregnancy exists.

MICHIGAN STATE BOARD OF HEALTH.

SPECIAL MEETING, OCTOBER 13, 1899.

THE PRESIDENT, HONORABLE FRANK WELLS, IN THE CHAIR.
REPORTED BY HENRY B. BAKER, M. D., SECRETARY.

EXAMINATION OF PLANS.

THE Michigan State Board of Health met in special session at the Capitol in Lansing. The members present were: Honorable Frank Wells, President, Lansing; Professor Delos Fall, of Albion; Fred R. Belknap, M. D., of Niles; and Secretary Henry B. Baker, of Lansing.

The meeting was called for the purpose of examining plans for the proposed new building at the State Normal School at Marquette. The system of ventilation proposed was the fan system, and the foul-air flues were to end at the attic floors, and the foul air was supposed to all go out by way of two turrets near one end of the building. This Board advised that the ventilation be by the natural system, as being better, less complicated, and more economical; also that the ventilating flues from each room be carried separately to the outer air above the roof.

A large amount of routine business was transacted following the examination of plans.

As a result of almost simultaneous action by the two Boards, a conference with the State Board of Corrections and Charities was held for the purpose of discussing the subject of how best to cooperate in the examination of plans for proposed new buildings at State institutions, as to best serve the important interests of the State entrusted to these two State Boards. The members of the Board of Corrections and Charities present were: Right Reverend George B. Gillespie, of Grand Rapids; Arthur Leland Worden, of Detroit, and Secretary L. C. Stoors, of Lansing. In accordance with the law, the State Board of Corrections and Charities is required to examine plans for the purpose of ascertaining whether or not the buildings, for which the plans are desired, can be built for the appropriation made by the Legislature; and after that Board certifies that the same can be accomplished, the Board of Control, of the institution for which the plans are designed, can draw the money with which to construct the buildings, no matter whether the plans are such as can be approved by the State Board of Health or not; and if proper provision for fresh air is omitted, the building can be made larger by the amount taken away from the cost of the fresh-air supply. The conference lasted for about one hour, in which time very valuable discussion ensued. No formal action was taken on the subject; but it was implied and understood that the two Boards should so cooperate in the examination of plans for proposed new buildings at State institutions, that it would be practicable for the State Board of Health to first examine plans, for the purpose of giving the State Board of Corrections and Charities the results, in order that it might more easily and certainly ascertain whether or not buildings could be properly constructed, and have the proper ventilating system, within the appropriation allowed.

A request of Doctor Abbott, of Boston, Special Agent, Hygienic Section for the Paris Exposition, for sanitary data from Michigan to be made into diagrams and exhibited at the Paris Exposition, was complied with, and the Secretary directed to forward the same.

Judge Aaron V. McAlvay, member of this State Board of Health, was appointed a delegate to attend the meeting of the American Public Health Association, in Minneapolis, the last of this month.

The Secretary was authorized to issue two teacher's "Sanitary Bulletins" on "The Prevention of Small-pox," and on "The Restriction of Small-pox." At the present time the subject is a very important one for the reason that small-pox has been quite prevalent in several parts of the United States recently, and three or four outbreaks have occurred in Michigan.

The Secretary's report of the conditions of health in Michigan showed that notwithstanding the fact that typhoid fever and a few other diseases were much more prevalent than in the preceding quarter, compared with the average in the corresponding quarters in the thirteen years, 1886–98, the reports from regular observers indicate that whooping-cough, pneumonia, remittent fever, erysipelas, diphtheria, intermittent fever, consumption, cholera morbus, typhoid fever and cholera infantum were less than usually prevalent in the third quarter of 1899.

EDITORIAL ARTICLES.

PROGRESS OF THE MOVEMENT FOR UNIFORM MEDICAL PRACTICE THROUGHOUT THE UNITED STATES.

Uniformity in medical practice among the several States of our Union is as yet only a hope. In respect to the requirements for medical license State sovereignties are as plainly manifest as in State control of the most localized affairs. In view, however, of our cosmopolitic characteristics, and particularly on account of the continental citizenship which modern industrial life demands of a no small minority of our countrymen, there is occasioned a general as well as local need for protection; and as State control of medical practice is justified from the standpoints of both the laity and the profession, on these same grounds there is urged an uniformity of legislative enactments by the several commonwealths represented in our national Union.

Reference has already been made to the investigation of this movement by the Wayne County Medical Society, and to the campaign of education begun previously by the National Confederation of State Medical Examining and Licensing Boards. In the interest of this movement a committee of the former organization directed letters of inquiry to the fifty-one States and Territories, containing seven questions of which 5, 6 and 7, the most important, were:

(5) Would you be inclined to favorably consider the plan of entering into a state of reciprocity with other States (or Territories) which have practically the same requirements for the license of practicing medicine as your State (respective Territory) has?

(6) Would you join in the efforts in working out a memorandum to be presented to the legislative bodies of the different States with the view of introducing a bill as to the subject matter, and would your Secretary cooperate with us?

(7) Have you any suggestions to make?

In response to these questions the committee reported September 14, 1899:

"Answers have been received from 36 States and 3 Territories.

Favorable answers to questions 5 or 6, 34.

Unfavorable answers to questions 5 or 6, 0.

Favorable answers to question 5, 30.

Unfavorable answers to question 5, 4, Arkansas, California, Colorado, Connecticut.

No answer to question 5, 1, Ohio.

Not prepared to answer question 5, 4, Alabama, Delaware, Massachusetts, West Virginia.

Favorable answers to question 6, 30.

Unfavorable answers to question 6, 1, Kentucky.

No answers to question 6, 2, New Jersey and Pennsylvania.

Not prepared to answer question 6, 6, Alabama, Arkansas, Delaware, Massachusetts, Mississippi, West Virginia.

It must be remarked that the unfavorable answers are accompanied by explanations which make it not at all impossible to overcome the difficulties, which, at present, do not allow a favorable reply."

It is apparent from this canvass that the subject is not only understood and appreciated but also that the desire for the realization of this project is quite general. The medical press has begun to agitate and advocate the matter, and as the medical public become better informed with regard to it more rapid progress of the movement may be expected.

ADULTERATED FABRICS.

We are tolerably familiar with the terms "adulterated foods" and have not been obliged to "cross the water" to test the unwholesome qualities of these spurious articles. We confess our ignorance, however, of the intentional adulteration of fabrics and our surprise at the extent to which it may be and has been practiced. This sort of dishonesty has been brought recently to public notice by **Professor Dixon Mann**, who, by invitation, investigated and reported to the Manchester Chamber of Commerce upon certain fabrics submitted to him for analysis. Quoting from the *British Medical Journal,* "The inquiry was directed to (1) the percentage of moisture held by fabrics, (2) the loss of weight sustained by the fabric on washing, and (3) the nature and the amount of the filling. * * * A certain sheeting, for example, was found to hold seven and one-tenth per cent. of water, and when washed it had lost eleven and five-tenths per cent. of its weight. The filling material in this instance was zinc chloride and magnesium sulphate along with some insoluble mineral matter. Flannelette, which contained five and two-tenths per cent. of water, lost on washing eleven and seven-tenths per cent. of its weight, the filling material having been sodium sulphate. Oxford sheetings held twenty-one and one-tenth per cent. of water, and lost thirty-seven and five-tenths per cent. of their weight after washing, the mineral materials in this instance being magnesium sulphate and chloride. Moleskin, which is used for making trousers for working men, retained in its fibre four and one-tenth per cent. of water, and lost on washing forty-four and three-tenths per cent. of its weight."

From the quotation given it will be observed that there are offered for sale, and for use by the ignorant wearer, goods that may contain as much as one-fifth of their weight of water, and which on washing may lose up to nearly one-half of their weight. Aside from the specious practice of thus obtaining money under false pretenses there is an hygienic factor of no small importance. In order that more mineral matter might be incorporated into the goods glycerine and glue were found to have been used. As glycerine and magnesium salts take up water from the atmosphere the wearer will unconsciously be shrouded in moist and unduly heavy garments, the possible effects of which are obvious. These facts, it may be supposed, have been generally overlooked, although from a knowledge of human nature they might have been suspected. These adulterations, having been found to exist not by accident but by deliberate intent, should receive public notice and condemnation and restraint by law as in the case of adulterated foods.

ANNOTATIONS.

ON MEDICAL REGISTRATION.

The quietude usually experienced in medical circles has finally been disturbed and, from all parts of the state, inquiries are received asking how to register and whether every one will have to be examined. The newly installed Medical Examining and Licensing Board met in Lansing October 10, 1899, and organized. A second meeting was held in Grand Rapids October 26, and the following resolution adopted:

> *Resolved,* That this Board does not recognize any diploma as a basis for registration for the practice of medicine and surgery within this state, but requires all applicants for registration *hereafter* to pass examination before this Board.

A somewhat false rumor has gone abroad that individual members of the Board will pass upon the validity of registration of the practitioners within their section of the state. This function the Board reserves to itself, but, in order to hasten the process of registration, proofs of previous registration and fees are already being collected by the individual members who will present them for action at the meetings of the Board. The next meeting will be held in Detroit at the Hotel Cadillac, November 23, commencing at 10 A. M. The Board has shown a disposition to accommodate the profession in the work before them, and seeks their moral support in the efforts put forth to raise the standard of medical practice in the State of Michigan.

WHAT IS OUR TRUE BIRTH-RATE?

So much has been spoken and printed about abortions, the spaying of women and the new woman in relation to marriages and births that many half truths and some untruths have come to be received as facts. A symptom has appeared, a diagnosis made and immediately a train of deductions have been started that are calculated to startle the least imaginative individual. In the matter of births, statistics have been used to show that the rate was decreasing, and, without questioning the possibility of error, the conclusion reached that, like France, our country was in danger of becoming depopulated or of passing into the hands of foreigners and people of other nationalities. While such possibilities are far from becoming probabilities at most within our own generation, yet such thoughts are not altogether pleasant to contemplate even for the generations to come. The subject is a large one and, owing to the extreme difficulties encountered in obtaining full and accurate knowledge on all points, will, for the present, have to be held in abeyance. However, in order to satisfy the curiosity, we consult the vital statistics as given in the report of the eleventh census of the United States and are confronted with a birth-rate for 1890 of 26.68 per one thousand of population, while that for 1880 is given as 30.95 per one thousand of population. This appears ominous enough, but a little further there is doubt cast upon the report and the enumeration for 1890, as well as for 1880, is called defective. After applying the estimated correction, the birth-rate for 1890 is given as 32.94 per one thousand of population and that for 1880 as 32.26 per one thousand of population, excluding stillbirths in each case; and, although this is believed to be a much fairer estimate, yet, since an uniform percentage is scarcely applicable to different areas and the actual result is therefore variable, the former rates are of necessity given without other correction. If the corrected estimates are approximately true, and we may more reasonably rely upon them than upon the printed rates, then our people will be found to compare favorably with most of Europe. *Fronti nulla fides.*

CONTEMPORARY.

UNIFORM MEDICAL LEGISLATION.

[THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.]

LAST June the Wayne County Medical Society—Detroit, Michigan—appointed a committee for the purpose of initiating a movement looking to the creation of a national board of health or, in some way, to secure uniform legislation in every state. The committee made its report on September 14, and in its report says that it sent circulars to fifty-one states and territories, in which replies were asked to seven questions—the most important of these being as follows:

"Would you be inclined to favorably consider the plan of entering into a state of reciprocity with other states which have practically the same requirements for the license of practicing medicine as your state has?"

"Would you join in the efforts in working out a memorandum to be presented to the legislative bodies of the different states with the view of introducing a bill as to the subject matter, and would your secretary cooperate with us?"

The committee received answers from thirty-six states and three territories. Thirty-four of the answers were favorable, showing almost unanimity. The unfavorable answers were accompanied by explanations which made it not at all impossible to overcome the difficulty. While the committee recognizes the existence of the National Confederation of State Medical and Examining Boards, it believes that the state medical societies of the country ought to act separately, at least at the beginning. As the committee was instructed to continue we hope it may be able to accomplish its object so that all states shall have like medical laws, with reciprocity. There is certainly a need of a different system of licensure for the control of medical practice than the unequal one that now exists in the different states. It seems hardly just to compel a physician who desires to move from one part of his own country to another, to pass an examination when that move happens to carry him into another state. Few men, no matter how well qualified, are able to pass a fairly good examination in all the fundamental branches. A technical knowledge—that which can be expressed in words—of all such fundamental branches as anatomy, physiology, chemistry, et cetera, is held by but few men. Men in special lines of work are more decidedly liable to get rusty in other branches, and would make sorry work of passing an examination that would have been easy in their early professional life. The possibility of doing away with this anomaly in our system of regulating the practice of medicine is not hopeless. It must come, however, through concerted action on the part of the different states, national legislation on the subject being probably unattainable. To accomplish this reform a central body must be created, through which the different state bodies shall act, and this central body must be created by the states themselves. The first thing to be done, therefore, is to get each state to take action, and this, as we understand it, is what the Wayne County Medical Society is attempting to do. One thing must be recognized at the beginning, however, and that is that the united action of the states will only come by raising the standard in those states that have now too lax a law, and not by a retrograde movement on the part of any. It might be well to here call attention to a resolution adopted by the American Medical Association at its meeting in 1894, namely: "That we request the state societies to unite in establishing a uniform standard of professional requirement for admission to the practice of medicine, and to aid, as far as possible, in advancing the scientific status of the same by the appointment of state examining boards independent of the teaching faculties of medical colleges."

INTERSTATE RECIPROCITY IN GRANTING THE LICENSE TO PRACTICE.

[THE NEW YORK MEDICAL JOURNAL.]

In our issue for August 12, we spoke in commendation of a movement set on foot by the Wayne County (Michigan) Medical Society looking toward securing cooperation in various States in the establishment of as near an approach to uniformity of State license requirements as might seem attainable. At that time the society had intrusted its scheme to a committee consisting of Doctor George G. Gordon (president), Doctor E. B. Smith, Doctor F. D. Summers, Doctor E. H. Troy, and Doctor E. Amberg (secretary), which committee had sent a circular of inquiry to the proper authorities of each State and Territory.

The committee announce now that they have received, up to September 14, answers from thirty-nine States and Territories, and that almost all these answers are favorable to the more important features of the undertaking—that is, they express an inclination to consider favorably the plan of entering into reciprocity with other States and Territories having practically the same requirements as their own, together with a willingness to cooperate in preparing a memorandum to serve as the basis of proposed legislation in the various States concerned. The committee add that the few unfavorable answers received were accompanied by explanations which warrant the hope that it is practicable to overcome certain difficulties which do not at present allow of a favorable reply. They report also that from other sources they have met with encouragement and their plan has received approval. In this connection, they are kind enough to mention our article.

We are glad to learn of the degree of success that has attended the committee's efforts in this undertaking, and we feel like urging all medical societies that deal at all with such matters to give the Wayne County Medical Society as full a measure of support and cooperation as possible. No doubt there are difficulties in the way of absolute uniformity of requirements, but the limited and reasonable reciprocity that our Michigan brethren are seeking to secure seems to us feasible. It certainly is desirable. Events succeed each other rapidly in these closing years of the nineteenth century, and the unhoped-for comes to pass almost before we have had time to realize what its fulfillment would mean. Let us, therefore, never despair of the consummation of a desired improvement.

MEDICAL NEWS.

THE DEMISE OF AN EMINENT ANATOMIST.

Doctor George A. Hendricks, professor of anatomy in the medical department of the University of Minnesota, succumbed to acute Bright's disease at Minneapolis Sunday evening, September 24, 1899. The doctor had been ailing for several years, but continued to lecture and practice until the day preceding his death. He was born in the vicinity of Gettysburg, Pennsylvania, July 17, 1850, and was of Scotch descent on his father's side and Scotch-Irish on his mother's, with an admixture of early Pennsylvania Dutch. He received his literary training at a normal school and one of the smaller colleges in Pennsylvania, graduating with the degree of Master of Science. For a time he was connected with his father's mercantile business in the capacity of buyer, but this vocation did not prove to be congenial, and after spending a year in the office of a noted physician near Philadelphia, he entered the medical department of the University of Michigan, where he obtained the degree of Doctor of Medicine in 1877. From that year until 1889 he was a member of the teaching force of the college, being engaged the major portion of the time in expounding anatomy conjointly with Professor Corydon L. Ford. While pursuing his career at the University of Michigan, lecturing was interspersed with writing for a period of six years by editorial connection with The Physician and Surgeon, during which time he earnestly labored to advance the cause of independent medical journalism in Michigan, and many fond recollections of the happy association are dearly cherished in the memory of the writer. Ten years ago he accepted the chair of Anatomy in the University of Minnesota. Two years later he was married to Miss Marie D. Patterson, of New York, and the two have since spent the summer months in travel. They recently began the erection of a winter home in the Hawaiian Islands, where Mrs. Hendricks had gone shortly before the sad occurrence to superintend the finishings, being in midocean when the doctor expired. In an obituary notice of him, *The Saint Paul Medical Journal* has this to say: "Doctor Hendricks was better known as a teacher than as a practitioner, although he was an expert operator and a skillful surgical diagnostician. He was a born teacher, and was universally beloved by his students. It will be difficult, indeed we doubt if it will be possible, to fill the place in the University of Minnesota made vacant by his death."

THE MEDICAL EXAMINING BOARD.

THE following physicians have been appointed by Governor Pingree to constitute the Board of Registration in Medicine provided for in the Chandler bill, which was enacted in the last legislature to regulate the practice of medicine in Michigan:

REGULAR SCHOOL.

Beverly Drake Harison, Sault Sainte Marie, two years.
Samuel Bell, Detroit, four years.
Bion J. Whelan, Hillsdale, four years.
Austin W. Alvord, Battle Creek, two years.
Harry A. Haze, Lansing, four years.

HOMEOPATHIC SCHOOL.

Malcolm C. Sinclair, Grand Rapids, two years.
Albert Lodge, Detroit, four years.

ECLECTIC SCHOOL.

Willliam Bell, Smyrna, two years.
Zela L. Baldwin, Niles, four years.

PHYSIO-MEDICAL SCHOOL.

John Kost, Adrian, two years.

The board was organized at Lansing October 10, by the election of Doctor Sinclair to the presidency and Doctor Harison to the secretaryship. The second meeting was held at Grand Rapids October 26, and a resolution adopted on that occasion and published elsewhere in this issue, indicates the policy the board intends to pursue.

THE LOCAL MEDICAL SOCIETIES.

THE Detroit Academy of Medicine elected the following officers at its recent annual meeting: President, Doctor George Duffield; vicepresident, Doctor L. E. Maire; secretary-treasurer, Doctor H. D. Jenks (re-elected). Doctor Frederick W. Robbins delivered the retiring president's address. Subject—"Conservatism in Medicine and Surgery."

* * *

THE Detroit Medical and Library Association has elected the following officers for the ensuing year: President, Doctor Carl Bonning; vicepresident, Doctor F. L. Newman; secretary, Doctor P. C. McEwen (re-elected); treasurer, Doctor R. W. Gilman (re-elected). Doctor Charles Douglas delivered the annual address, the subject being "The Laws of Nutrition Should be Taught in the Schools."

* * *

THE Wayne County Medical Society convened in annual meeting October 5, 1899, with an attendance of sixty. President Honner delivered an address, and Secretary Cree rendered a report showing that the society had a membership of 249, divided into active, honorary and corresponding, the first class numbering 226, the second 17, and the third 6. During the year thirty-six meetings have been held, twenty-nine papers read, one general discussion held, five pathological specimens exhibited, five patients presented, and thirty new members initiated. The total attendance at the meetings was 1,011; the average attendance 28. Treasurer Leonard reported a balance of $88 to the credit of the society. The election of officers for the ensusng year resulted as follows: President, Doctor George A. Kirker; vicepresident, Doctor Frank D. Summers; secretary, Doctor Walter J. Cree (re-elected); treasurer, Doctor C. Henri Leonard (re-elected); board of directors, Doctors Robert H. Honner, Edward T. Milligan, Edwin G. Knill, David Inglis, and David H. O'Donnell. After the adjournment of the meeting proper the retiring president entertained the members to refreshments in the ordinary of the Griswold.

CHRISTIAN SCIENTISTS MUST COMPLY.

DOCTOR HENRY B. BAKER, secretary of the State Board of Health, has written the Attorney General, Horace M. Oren, regarding the attitude of Christian Scientists toward the law requiring "physicians or persons acting as physicians" to report dangerous communicable diseases to health officers, and has received the following reply:

* * * "You ask whether or not a person practicing 'a system known as Christian Science,' is or is not a physician, or acting as a physician, and therefore liable, under section 1676 of Howell's statutes, as amended by Act 11 laws of 1883, and Act 150 public acts of 1895, for not reporting diseases to the health officer of the township, city, or village as required by law. Said act as amended, requires, that: 'Whenever any *physician* shall know that any person whom he is called to visit, or who is brought to him for examination, is infected with small-pox, cholera, scarlet fever, or any other disease dangerous to the public health, he shall immediately give notice thereof to the health officer of the

township, city or village in which the sick person may be; and to the householder, hotel keeper, keeper of a boarding house, or a tenant within whose house or rooms the sick person may be. The notice to the officer of the board of health shall state the name of the disease, the name, age, and sex of the person sick, also the name of the physician giving the notice; and shall, by street and number, or otherwise, sufficiently designate the house or room in which said sick person may be. And every *physician and person acting as a physician*, who shall refuse or neglect immediately to give such notice shall forfeit for each such offense a sum not less than ten nor more than fifty dollars,' et cetera. It is plain from the wording of the above section of the act that it applies to either physicians as such, or persons acting as physicians. The question, therefore, hinges on whether or not a person employing 'a system known as Christian Science' is or is not included under the above terms. If such a person is included under the term 'physician' or 'acting as a physician' he would be required to make the report, otherwise he would not. I will first take up the construction of the word 'physician.' In Section 3 of Act 237, Public Acts of 1899, entitled 'An act to provide for the examination, regulation, licensing, and registration of physicians and surgeons, and for the punishment of offenders against this law, and to repeal acts and parts of acts in conflict therewith,' I find it clearly defines who shall be physicians in this State, that is, who shall be allowed to practice medicine and surgery therein, requiring that all such persons shall pass a certain examination given by the board, together with other conditions, or be a graduate of certain medical schools, whereupon, they shall be entitled to be registered, and receive a certificate of registration, which shall entitle them to practice medicine in Michigan. Bouvier says: 'A physician is one *lawfully* engaged in the practice of medicine.' This is also the common and accepted meaning of the term. It follows, therefore, that unless a person has received such a certificate entitling him to lawfully practice, he is not a physician in the State of Michigan, and will be liable for holding himself out as such under Section 7 of the act in question, which section reads in part, as follows: 'Any person who shall practice medicine or surgery in this State without first complying with the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than one hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment, for such offense,' et cetera. Section 9 of Act 237, also provides: 'When any person shall append the letters M. B. or M. D., or prefix the title "Dr." or Doctor, or any other sign or appellation in a medical sense to his nane, it shall be prima facie evidence of practicing medicine and surgery within the meaning of this act.' Taking the definition of Bouvier, and the 'Encyclopedia of Law,' that: 'A physician is one lawfully engaged in the practice of medicine,' together with Sections 3, 7 and 9 of Act 237, it seems that the clear intention of the legislature is, that only such persons as have received the necessary certificate from the board of registration are to be considered physicians in the State of Michigan. It is my opinion, therefore, that a person employing 'a system known as Christian Science,' unless he be lawfully registered as a physician, is not a physician, and cannot be included under the term 'physician' as used in the act under consideration. This brings us to the words 'acting as a physician,' the question being, whether or not they would include a person practicing 'a system known as Christian Science.' The evident intention of the legislature in adding this class was to broaden the meaning of the section in order that it may include persons not physicians, and thus bring within its construction all those cases which might otherwise fail to be reported. The question is, then, who did the legislature intend to include by the words 'acting as a physician?' I think that they are capable of a very wide meaning, and if it was the intention of the legislature to give them this wide meaning, they should be so construed. The evil sought to be overcome by the statute is the danger to public health and life due to the failure of physicians and persons acting as physicians, to make a report of diseases which they undertake to treat, in order that the public may be warned, and such disease may be properly confined. If this was the intention of the legislature, which I think it was, it follows that any person who takes charge of and attempts to treat, any of the contagious diseases mentioned in the statute, whatever the means, would be liable for not making the report as required by the act. This would include a person employing 'a system known as Christian Science.'"

MINOR INTELLIGENCE.

THE largest known uterine tumor weighed one hundred and ninety-five pounds, and is described by a Bucharest physician.

PROFESSOR WILLIAM OSLER, of Baltimore, has spent the greater portion of this summer with his family in a cottage in Dorsetshire, England.

THE enrollment of students in the medical department of the University of Michigan is as follows: Seniors, 66; juniors, 72; sophomores, 116; freshmen, 159. Total, 413.

SAINT ANTHONY'S School for Feeble-Minded Girls, conducted by the Catholic Sisterhood, was opened for the reception of pupils at Nazareth, Kalamazoo County, Michigan, October 1, 1899.

THE chief stores of the Russian military medical department were recently destroyed by fire. This drug factory was located on Apothecaries' Island, Saint Petersburg, and entails a loss of $3,000,000.

MALTINE with creosote is a new combination of two old remedies which has recently been offered to the medical profession. Each fluid ounce of the preparation contains four minims of pure creosote.

LAWSON TAIT is quoted by *Schmidt's Jahrbucher* as citing a case of tubal pregnancy in which he found a seven weeks' old fetus with a four months' size placenta, indicating growth of placenta after death of fetus.

DOCTOR C. VAN ZWALUWENBURG, of Kalamazoo, Michigan, president of the Kalamazoo Academy of Medicine, has disposed of his practice to Doctor Casper K. Lahuis, formerly assistant to the chair of diseases of women and children at the University of Michigan, and will leave in January for a residence in California, a move necessitated by the health of his wife.

A DECISION just handed down by the Supreme Court of Illinois, sustained the Circuit Court of Cook county in depriving the Independent Medical College of Chicago of all its corporate rights. This action will be a severe blow to its alumni registered in this state who seek re-registration under the Chandler act.

AT the recent annual meeting of the Saginaw County Medical Society the following officers were elected for the year 1899–1900: President, Doctor Eugene W. Davis, of Saginaw; vicepresident, Doctor William L. Dickinson, of Saginaw; secretary, Doctor E. A. Florentine, of Saginaw; treasurer, Doctor James J. Lyon, of Zilwaukee. The regular meetings of this society are held on the second and third Fridays of each month from October to June inclusive.

THE recent Chicago meeting of the Mississippi Valley Medical Association was the most successful in the history of this organization. A larger percentage of those who promised papers were present to read them than ever before, the discussions were spirited, and the sections were generally well attended. The transactions of the meeting will be issued in book form at once. The following officers were elected for the ensuing year: President, Doctor Harold N. Moyer, Chicago, Illinois; first vicepresident, Doctor A. H. Cordier, Kansas City, Missouri; second vicepresident, Doctor S. P. Collings, Hot Springs, Arkansas; secretary, Doctor Henry E. Tuley, Louisville, Kentucky; treasurer, Doctor Dudley S. Reynolds, Louisville, Kentucky; chairman of committee of arrangements, Doctor M. H. Fletcher, Asheville, North Carolina. The twenty-sixth annual meeting will be held in Asheville, North Carolina, October 9, 10, and 11, 1900.

RECENT PUBLICATIONS.

REVIEWS.

PHARMACOLOGY AND THERAPEUTICS.*

WHATEVER may be thought of the materia medica up to a generation or two ago, the medical observer of today must be impressed by the immense layout of drugs and other therapeutic measures that we have now; and, furthermore, not only more manifold are the agencies provided for the relief and cure of pathological states, but their use is coming to be more generally attended with a precision and a certainty that our medical forefathers could only imagine. With all this difference it must be said of some of our text-books that empiric knowledge still sometimes takes precedence of the results obtained by trained observers in the laboratory. The change is, however, going on, and this work is well calculated to help it along. The author has taken great pains not only in producing an exhaustive treatise on drugs, but also in fixing the true value of individual drugs according to their actions on the organism in health and disease. The work has, it seems, been prepared for students, but it may well find a place on the desk of the advanced student of materia medica and therapeutics.

*By Arthur R. Cushny, M. A., M. D. (Aberdeen), Professor of Materia Medica and Therapeutics in the University of Michigan Medical Department, Ann Arbor. In one handsome octavo volume of 728 pages, with forty-seven engravings. Cloth, $3.75 net. Lea Brothers & Company, Philadelphia and New York, 1899.

THE NEWER REMEDIES.*

With an increase of about twelve hundred products during the last three years medical men need not be told that new remedies are rapidly multiplying, but they greatly need a constantly revised journal in order to keep well posted on their characteristics, dosage, uses, et cetera. We know of no more complete reference manual for the purpose than this. Names are arranged in alphabetical order, synonyms given and cross references made. It will be found equally useful to the physician and pharmacist.

*By Virgil Coblentz, A. M., Phar. M., Ph. D., F. C. S., et cetera. Professor of Chemistry and Physics in the New York College of Pharmacy; Author of "Handbook of Pharmacy"; Member of the Chemical Societies of Berlin and London; Fellow of the Society of Chemical Industry, et cetera. Third edition. Revised and very much enlarged. Philadelphia: P. Blakiston's Son & Company, 1899.

MINOR SURGERY AND BANDAGING.*

This work is much broader and fuller in scope than the title would indicate. Minor surgery and bandaging are treated in detail, and with more satisfaction to the young student than is had from most surgical works. In addition the author has added chapters on fractures, dislocations, amputations, excisions, resections and many other special operations which greatly enhance the value of the book. As the work has already been favorably received by teachers little more need be said in reference to this edition, except that the addition of new matter and new engravings make it still better than ever.

*By Henry R. Wharton, M. D., Demonstrator of Surgery in the University of Pennsylvania. New fourth edition. In one 12mo volume of 594 pages, with 502 engravings, many being photographic. Cloth, $3.00 net. Lea Brothers & Company, Philadelphia and New York.

MECHANO-THERAPY.*

The applicability of massage and medical gymnastics to diseased conditions is well founded. The difficulty with most of us lies in our ignorance of the methods and in adapting them properly. The want felt may be fully supplied by this text-book, which is based on the system practiced by the Royal Gymnastic Central Institute, Stockholm, Sweden. It is especially adapted to students and nurses.

*By Axel V. Grafstrom, B. Sc., M. D., late Lieutenant in the Royal Swedish Army; late House Physician, City Hospital, Blackwell's Island, New York. With eleven pen-and-ink sketches by the author. Philadelphia: W. B. Saunders, 1899.

DIAGNOSIS BY THE URINE.*

This is an admirable composition on practical urinology, and impresses us as the work of a master. It is clear, concise, reads like a story, and should prove a favorite with the profession.

*By Allard Memminger, M. D., Professor of Chemistry, Urinology, and Hygiene in the Medical College of the State of South Carolina; Visiting Physician in the City Hospital of Charleston, et cetera. Second edition, enlarged and revised. Philadelphia: P. Blakiston's Son & Company, 1899.

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

THE LAWS OF NUTRITION SHOULD BE TAUGHT IN THE SCHOOLS.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

PROPER nutrition is the foundation of human development and success. All will acklowledge this, yet how few there are who could, if catechized, explain intelligently the principles of nature's plan. We look at a human being made of bones, ligaments, muscles, nerves, fascia, blood-vessels, fat, skin, hair and other parts, and yet there are not many, except physicians, who understand how these different parts are produced, what is nature's way of building them, or what stock she uses in their manufacture. We allow too much mystery to envelop and cover over this subject. It is not for the benefit of mankind that their thoughts are not turned more in this direction, and the sunlight of knowledge, thought and study clearly shed over its intricacies, making even the dark and shadowy spots as clear and transparent to every one as the crystal water springing from the mountain side.

This world is full of people riding hobbies. Perhaps there are as many hobbyists in the dietetic field as in any other one. Each one, of course, believes firmly in his own ideas, else he would not punish himself by living up to them. Asked for an explanation or physiological reason for the faith that he enunciates, and his answer at once rushes our minds back to the dark era of witchcraft and hoodoos. Unfortunately we are compelled to turn our backs, pitying that ignorance which doos not know enough to know that it knows nothing of the subject in which its vain efforts only demonstrate a strong desire for knowledge.

Why is this the case? Why do we religiously avoid investigating this subject? Why are we content to accept humanity in any form which it chooses, weedlike, to assume in the growing straight or crooked, smooth or scarred, strong or weak, healthy or diseased, beautiful or repugnant? Why do we refuse to accord to our own flesh and blood that intelligent thought, attention, knowledge and experience which is daily given to our domesticated animals, our crops and our flowers? Can it be possible that the commercial value of the latter gives them an importance which we are unable to accord to the members of the human family? I would be very sorry to accept such an answer, yet what is the true one? Why do we not give to this subject that study and investigation which will give humanity a foundation for thought, a something on which parents can, at least, intelligently think, and from which they can judiciously work and direct the growth and development of their offspring.

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*Retiring President's address before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

Some (I fear they would be termed cranks) think that human efforts should be directed to the mating, even of the human family. No doubt great good could be done in individual instances of undoubted contamination, but probably much greater harm would be mixed with this effort by infringing on personal liberty the inalienable right of man. Who is there among us who could, or would, undertake to cast out the unclean or weakly? Certainly we have not, as yet, approached this gigantic subject. Our higher civilization, greater respect for humanity and better education have at least taught us to avoid rushing into a situation which some of the original tribes of the earth have not feared to approach in their own peculiar ways. For this we are truly grateful.

While in this much we cannot emulate those propagating practices commonly and necessarily followed on the farm, in the field and in the garden, yet we can, if we will, compete intelligently and compare favorably in caring for our progeny, thus producing the best results possible in each individul case.

Why we have not done this sooner can only be answered by the laws of inheritance. We accept many things, religion, politics, language, habits, ideas and practices from our ancestors. So do we continue the same habits and thoughts (empirically often) in raising our children. Our fathers did so with us and we live, likewise be it so with our children. Our brothers and sisters who dropped by the wayside, often the victims of these habits, cannot rise up and object, and we cannot do it for them as we do not know their objections.

As the horseman knows that the blue grass of Kentucky grows the best bone, nerve and muscle in his young animals; as the farmer knows that corn is the best fattening agent for his stock; as the milkman knows that certain kinds of food will give copious returns in milk, and certain other foods produce fat and muscle only; as the florist knows that clay soil grows the best roses and leaves make the best manure, so must we teach our young the value of individual foods in supporting particular parts of the body. So must we inculcate into the rising generations a knowledge of their own structures, of the tissues that compose them, of the purposes for which those tissues are made, of the foods which go to their formation, of the proper use of those foods and the proper care of those organs designed to consume these foods, and thus construct those tissues regularly and systematically without the errors, breaks and repairs now only too common in our children. Then will we not witness future mothers blindly groping in the grab-bag of proprietary foods for their infants dietary. But we will witness each one thinking familiarly of the elements of nutrition as nature daily demonstrates them to us in milk for the early nourishment and growth of all mammalia. We will hear the mother talk familiarly of fat for growth, of sugar for heat, of proteid for muscle, nerve, ligaments, hair, skin, et cetera, of salts for alkalinity and bone formation, and of dilution of water for perfect solution and elimination. We will hear her discussing in her clubs the proper time to add starchy food to nitrogenous in the infant's dietary; we will hear her discussing the digestibility of the different elements in the infantile diet and their object in the human economy; we will hear her lauding the advantages of the different proteids coming from milk, meat and eggs, and the suitability of each to tender digestive organs, as well as their comparative nourishing powers. We will hear her discuss the different varieties of starches and the advantages of oatmeal starch over that of other grains, on account of the extra five to seven per cent. of fat it carries, while at the same time she remarks cautiously on its disadvantages where the gastroenteric mucous membrane is tender and the bowels move more frequently than usual. She will intelligently insist that the rice, barley or wheat starches, carrying from half to one per cent. of fat, are more suitable in those cases and equally nourishing.

While descanting familiarly on this to her old but most interesting subject, she will look back reminiscently on her progenitors, wondering how they managed, without this knowledge and experience, to rear their young. The only solution she can see is the greater simplicity of their lives and the greater nursing power accompanying that simpler life. But with this answer she is not entirely satisfied, for her memory jogs her, asking "whence came in the old churchyard the numerous small tombstones reading James, John and Mary, aged respectively one, two and three years, children of Solomon and Agatha." Then she doubts whether the progenitors did as well as first sight or thought indicated. Pursuing the tenor of her thoughts and suggestions, she at length reaches her conclusion by dividing the human dietary into the products of the animal kingdom and those of the vegetable kingdom; and while she reminds her hearers that nature makes perfect success in starting life on a raw nitrogenous diet, she adds other articles to this in a few weeks or months, according to the kind of digestive organs in the different animals. She does not fail to refer to the excessive proteids in the raw nitrogenous nourishment of the quadruped arranged by nature, in proportion to the early and excessive muscle and nerve power demanded in its efforts for existence, and she concludes that infantile life and health are successful in proportion as we justly divide its nutrition between two kingdoms, according to the demonstrated digestive power of the individuals, as proven daily in the healthy, well digested stools of our children.

When, gentlemen, our schools have taken hold of this subject and taught its principles up to intelligent thought and reason, then will you and I not be called to witness the harrowing spectacle of emaciated and starved infants in the arms of loving and devoted mothers whose careworn faces tell of sleepless weeks and exhausted bodies, whose eager eyes watch our every move and expression, and whose questions bespeak their anxiety and mental suffering. Nor will we be compelled time and time again, in critical cases, to give parents a guarded or unfavorable prognosis, simply because the child's sickness is traceable to the damages produced by an imperfect nutrition years before, or its recovery is blocked by damaged digestive organs, unable to appropriate enough for the emergency now imposed.

This subject, gentlemen, lies at the very foundation of our boasted humanity. Ignorance of its principles proves our weakness, and leaves our domestic relations too often in a chaotic condition. This should not longer continue. The medical profession should and must be the pioneers in showing the whole people where they are lacking, and why they are continually committing errors in their own living, and subjecting their children also to like abuse. We must continually act as missionaries on this subject at the bedside, and thus arouse in the community a knowledge that this error exists. In this way we can pave the way to correcting our present position by having the principles of human nutrition taught in all our public schools. We should not continue to bend all the energies of the teachers toward imparting a knowledge of all things in this world and the duties and practices followed in it, but we should prepare them also to impart a knowledge of the children in this world, and nature's way of nourishing, feeding and caring for them. Only in this way will we succeed in laying a foudation of health and vigor that will give clear heads with strong bodies, having the best resistance to the ravages of inherited and acquired maladies, and make individual success possible in whatever vocation necessity imposes. By this means we will reduce the errors which are being committed daily by young and old, and our nation be spared in future from a repetition of those errors which are yearly sacrificing the lives of thousands of our citizens both old and young, and which, during the past year, sacrificed six of our soldiers for every one killed by Spanish bullets.

Think of it, gentlemen! What an army of intelligent nurses this knowledge would bring into the field; with what intelligence and correctness the sick would be tended; what errors of dietary would be avoided, and how smooth and successful would be their convalescence. Relapses would be curiosities, and long febrile sicknesses a matter of history.

MEMOIRS.

A BRIEF SUMMARY OF SOME OF THE MORE RECENT OBSERVATIONS ON SENSORY NERVE-ENDINGS.*

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THE terminations of sensory nerves have for many years engaged the attention of anatomists and biologists, and a glance at the literature reveals the fact that numerous so-called sensory nerve-endings have received especial consideration, they having been found in all classes of vertebrates, and to a lesser extent in the invertebrates. Numerous as these investigations have been and able as have been the observers, there is yet much controversy as to the ultimate structure of many of them. This need not surprise us when we remember, that even at the present time we are in possession of no method, by means of which the ultimate endings of nerve fibres may be stained with certainty in all tissues, and in such a way as to leave no room for doubt. A critical discussion of the literature bearing on this topic would, however, lead me far beyond the limits of this paper, even were I to touch only briefly on the more important observations which have appeared since HOYER drew attention to the fact that nerve-fibers entered the epithelium, or since some of the larger nerve-endings, such as the Pacinian corpuscles, were first described. I feel less diffidence in abandoning what has become among writers on scientific subjects a recognized procedure,—the giving of a résumé of the literature—since nearly all sensory nerve-endings have in recent years been subjected to renewed investigations with methods which, although by no means perfect, seem nevertheless more adapted for bringing out the ultimate structure of sensory nerve-endings, especially as regards the arrangement and distribution of the terminal nerve fibers than were the various modifications of the gold-chloride method or the other methods used to study peripheral nerve terminations.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The methods by means of which it has been possible to gain a more accurate knowledge of peripheral nerve-endings, and to which I allude above, are the chrome-silver method of GOLGI and the methylen-blue method of EHRLICH, and of the two the latter has been especially useful in the study of sensory nerve endings, although important observations have been made by investigators using the GOLGI method. The value of these methods depends on their differential staining; a word concerning them may therefore not be out of place.

According to the method of GOLGI, fresh pieces of tissue, preferably embryonic tissue, are placed in a solution of potassium bichromate (four per cent. solution, four parts) and osmic acid (one per cent. solution, one part) in which they remain three to six days and are then transferred to a solution of silver nitrate (one per cent. to three-fourths per cent.) in which they remain two to three days. Better results are obtained by repeating this procedure several times. If the staining has been successful, some of the neuraxes (I refer to peripheral nerves), with their terminal branches will be stained in such a way as to appear black in transmitted light, while the surrounding tissue is stained a light brown. With this method, however, it is difficult to obtain thin sections, nor is it possible to double-stain successfully; then there is usually an annoying precipitate.

The methylen-blue method we owe to EHRLICH, who found that by injecting a solution of methylen-blue in normal salt into the circulation of an animal, and then removing small pieces of tissue and exposing them to the air for a short time, many of the axis cylinders with their branches, even to the finest, were stained blue. This method has been used by me for several years after the following manner: The animal is etherized, and a prominent vessel, going to the region in which the nerve-endings to be studied are found, is exposed. Into this a solution of methylen-blue in normal salt is injected until the part becomes decidedly blue. After the expiration of about one-half hour, the tissue to be studied is removed and placed on a slide moistened with normal salt and exposed to the air. If the staining is successful the blue stain appears in the axis cylinders a few moments after they are removed from the body. The tissues are then fixed in a solution of ammonium picrate or of ammonium molybdate. The former method is selected when surface preparations are desired, the latter when it is desired to section the tissues and perchance double-stain them. When the preparations are successful, the axis cylinders with all their branches, even to their finest terminations, are brought out with a clearness which has not been possible with other methods, and the fact that the tissues may be sectioned and double-stained makes it possible to study the terminal branches of the nerves and their relation to the elements of the tissue in which they end. The observations which I propose to present at this time, made by others and myself are in the main the results of investigations made with this method.

With this brief introduction we may now proceed to the subject under discussion.

We are now in possession of abundant data which warrant the statement that all sensory nerve-endings are the terminal arborizations of the dendrites of sensory neurons. The cell bodies of such neurons are found in the spinal ganglia, or the sensory cranial ganglia. The structure of these neurons is so well known that I need only to recall the fact that they possess a round or oval cell-body, containing a nucleus and nucleolus and are surrounded by a nucleated capsule. From the cell-body there arises a single process, which divides at a variable distance from the cell-body into two branches, one of which is a dendrite, the other the neuraxis. The neuraxes proceed centralward, the dendrites, which differ from the dendrites of other neurons in so far as they become the axis cylinders of medullated nerves, go to the periphery, constituting the sensory nerves of the peripheral nerve trunks. I may here in a general way call attention to the fact, not generally recognized, that sensory nerves undergo repeated divisions before terminating, so that the dendrite of a single neuron may terminate in a number of endings and may thus receive impulses from a relatively large area. This branching contributes largely to the formation of the plexuses found under the epithelia, and will receive fuller consideration subsequently.

The statement was above made that the essential portion of a sensory nerve ending is an end brush or arborization of the dendrite of a sensory neuron. The character of a sensory ending depends, therefore, on the complexity of this end brush and on its relation to the surrounding tissue. Bearing this in mind, I shall for purposes of description group the sensory nerve endings under the following heads:

(1) Free sensory endings. In these the arborization is not enclosed in a surrounding capsule which forms a part of the ending.

(2) Encapsulated endings. In these the arborization is surrounded by a fibrous tissue capsule, which separates it more or less completely from the surrounding tissue. These may be further subdivided into—

(a) Endings with capsule of white fibrous tissue, the bundles of which are irregularly interwoven.

(b) Endings with fibrous tissue capsule arranged in distinct concentric lamellæ.

FREE SENSORY ENDINGS.—These endings may be described under two general heads:

(a) Free sensory endings in epithelial tissue.

(b) Free sensory endings in connective tissue.

The free sensory endings in epithelial tissue have a very wide distribution, being found in all epitheliums both simple and stratified. These endings are most readily studied in regions where the epithelium and subepithelial tissue are easily removed, after the injection of the methylen-blue solution, in a layer thin enough to admit of study without further sectioning. In such preparations, well stained, the observer may often trace a sensory nerve through its several branchings, until it terminates in one or many arborizations. For this purpose the bladder of a frog, the respiratory mucous membrane of the nose, or the cornea of small mammals, or the mucous lining of the oral cavity is of service. When not too many nerves are stained, it may readily be seen that the sensory nerves, while yet medullated, branch several times at the nodes of Ranvier, the resultant branches often diverging at obtuse angles, and joining branches from other nerves to form a plexus with large irregular meshes. This plexus is situated in the subepithelial connective tissue. From the medullated nerves forming this plexus, smaller medullated branches are given off, which often divide further, and pass up toward the epithelium, to terminate immediately under the epithelium in nonmedullated branches which have a course tangental to the epithelium. Nonmedullated branches also proceed from the medullated nerves as they approach the epithelium, leaving the parent fibers at the nodes of Ranvier. These nonmedullated branches form a plexus under the epithelium, more closely woven than the deeper plexus. This plexus is known as the subepithelial plexus and the nerve fibers which constitute it present the varicosities so characteristic for nerves which have lost their medullary sheaths. In fortunate preparations one may observe that the nonmedullated fibers of the subepithelial plexus, after coursing a variable distance under the epithelium, enter it, and break up into numerous branches which after repeated subdivisions terminate between the epithelial cells in nodules or small discs of variable size and configuration. These constitute the end-brushes or arborizations of the dendrites of sensory neurons. It now and then happens that only a single sensory nerve going to a given area is stained, and if such a fiber is stained in its entirety, it may readily be seen that such a fiber terminates in many end-brushes such as I have just described; and, owing to the fact that these sensory nerves branch repeatedly, and as the branches diverge at various angles, the area in which a single sensory nerve may be stimulated is larger than is usually supposed. I estimate that the sensory nerve-ending, in the bladder of a frog, the diagram of which will be shown later, supplies an area two-tenths to three-tenths of a square millimeter.

As far as I have been able to determine, the description here given of the mode of ending of a sensory nerve, terminating in epithelial tissue holds good in the main facts for all epithelia. The shape of the end-brush varies somewhat with the structure of the epithelium supplied, but this seems to me of secondary consideration. Then, also, the terminal nodules or end-discs in which the varicose fibers of the arborization seem to end vary in shape and size. They are sometimes very small, scarcely larger than the nerve fiber or again much larger and disc-like, as for instance in the tactile discs. Then, again, instead of terminating in a single nodule or disc, the terminal nerve fiber may end in two or three or even a small group of nodules, as has been shown by BETHE. It is, however, too early to draw any deductions from these differences in the shape and size of the terminal nodules or end-discs observed on the end-brushes of sensory neurons in epithelium, as we know too little of the exact nature of the stimuli which excite the impulses emanating from these sensory endings. This difference in shape, size and structure of the terminal nodules loses somewhat in importance when we remember, that terminal nodules varying greatly in shape and size have been observed on the same end-brush, as we learn from the careful work of BETHE.

As already stated, free sensory nerve-endings in epithelial tissue have a very wide distribution. They have been shown in the epidermis, both by means of the Golgis and the methylen-blue method, the arborization being confined to the rete Malpighii; and in the hair follicles, where renewed investigations have corroborated and extended earlier investigations. It has been shown that the hair follicles receive their nervous supply from the nerve fibers which terminate in the immediate skin area. Each follicle receiving as a rule only one nerve fiber, which reaches the follicle a short distance below the mouth of the sebaceous gland. The nerve fiber on reaching the follicle divides into two branches, which surround it in the form of a ring. From this nerve ring numerous varicose fibers proceed upward, parallel to the axis of the follicle for a distance about equal to the cross diameter of the follicle, to terminate, it would seem, largely outside of the glassy layer (RETZUIS). They have been found in the stratified epithelium of the oral cavity and tongue, in the pharynx and oesophagus. Here the terminal branches of the end-brush reach nearly to the free surface of the epithelium. They have been seen by me in the epithelium of the respiratory mucous membrane of the nose, and of the frontal and maxillary sinuses. In the epiglottis and trachea they have been described by PLOSCHKO. They are no doubt also found in the intestinal canal, as large medullated fibers, which must be looked upon as the dendrites of sensory nerves, go to the intestinal canal, although their mode of ending has not been clearly shown. They are found in the large gland ducts as shown by ARNSTEIN and myself for the ducts of the salivary glands. And I have already stated that they terminate in the bladder, cornea and conjunctiva. In all epithelia, I believe the terminal fibers of the arborization end between the epithelial cells and not in the cells or their nuclei as has been stated by some writers. In double stained sections of methylen-blue stained tissues, the relation of the terminal nerve branches to the epithelial cells, seems to me clear enough to warrant this somewhat dogmatic statement.

The free endings of sensory nerves in connective tissue may be described under the following heads:

(a) Free sensory endings in the adventitia of vessels and the endocardium and pericardium.

(b) Free sensory endings in tendon and fascia.

(c) Free sensory endings in the tooth pulp.

My attention was first called to sensory nerves terminating in blood-vessels during some observations made on the nerve supply of intracranial vessels. In the vessels of the piamater and dura, besides the nerves which I took to be vasomotor in nature, I observed large medullated nerves which branched repeatedly. From the structural characteristics of these nerves as well as their mode of terminating, the conclusion was reached that they were sensory in nature. These nerves after repeated division, terminate in the adventitia in very fine, varicose fibers which could often be traced for long distances. This was especially well seen in several fortunate preparations in which a single nerve fiber with its many branches was stained in a given area. Dogiel, who has studied the ending of sensory nerves in the heart (see below) has also described sensory endings in the vessels of the heart and in the vessels of the central tendon of the diaphragm, the gall-bladder and the capsule of the kidney. The endings described by him are also in the adventitia, and are in the form of an end-brush with very varicose fibers, somewhat more compact than the end-brush described by me. At the suggestion of this observer, Schemetkin has studied other vessels with reference to this point, namely, the aorta and pulmonary vessels and finds these free sensory endings not only in the adventitia but also in the intima.

Smirnoff, some years ago, described sensory nerve endings in the heart which he suggested might be the endings of the depressor nerve. Dogiel has corroborated and extended these observations. He describes very complicated sensory end-brushes both in the endo and pericardium. As I shall give you some of Dogiel's figures it will be necessary for me to give but a very brief description of these endings. He states that after forming plexuses and undergoing repeated division these sensory nerves lose their medullary sheaths, the axis cylinders break up into numerous varicose branches, variously interwoven, forming endings which vary greatly in shape and configuration. This endbrush is surrounded by a granular substance, containing branched cells, probably connective tissue cells, the interlacing branches of which form a framework for the ending.

The sensory endings in tendon in most vertebrates are not of the nature of a free ending, and will therefore receive consideration in another portion of this paper. In the frog, however, as has been shown by Smirnoff, a typical free sensory ending is found in tendon. One large nerve usually takes part in the formation of this ending. This nerve, just before terminating breaks up into a variable number of medullated branches, each of which after further division, loses its medullary sheath, and breaks up into a large number of fine varicose fibers, which run parallel to the tendon fasciculi, which they surround. The tendon in the region of the nerve ending presents some structural peculiarities, well shown in double stained preparations; staining more deeply and showing many oblong nuclei.

Free sensory endings are also found in the fasciæ of mammalia, if I understand the figures of Ivanhoff correctly, and have been shown by Jacques, Abundo and myself in the dura mater. In the dura, the sensory nerves which may accompany the vessels or have an independent course, break up after dividing and losing their medullary sheath, into fine slender varicose fibers, which terminate between the fibrous tissue bundles of the dura.

Free sensory endings are further found in the connective tissue of the iris (Melkirch), and ciliary body (Agababow), to which structures the sensory nerve supply is very rich. In each case the ending is a typical much-branched end-brush consisting of fine varicose fibers.

Retzius and the writer have shown that the sensory nerves to the tooth pulp terminate in free sensory endings. The former used the Golgi method in his observations; our own were made with the methylen-blue method. The sensory nerves enter the tooth pulp at its base. A portion of these nerves, after repeated division lose their medullary sheaths and after further division enter the pulp and form a loose plexus under the odontoblasts. Other nerves pass up through the center of the pulp as bundles of medullated nerve fibers. In their upward course these bundles divide, and gradually approach the surface of the pulp, where they also lose their medullary sheath and after further division contribute to the formation of the nonmedullated plexus under the odontoblasts. From this plexus fine terminal twigs pass up between the odontoblasts, to end between them or between the odontoblasts and the dentine. Neither **Retzius** nor myself were able to trace any nerve fibers into the dentine.

In this brief account of free sensory nerve-endings it has been my aim to impress upon you the following facts:

(1) All free sensory endings are the arborizations of the dendrites of sensory neurons.

(2) The dendrite of each sensory neuron terminates in a number of arborizations, which may be grouped in a small area or spread over a relatively large area.

(3) That although the arborizations of free sensory endings found in the various tissues present differences in shape and size and the ultimate ends of the branches are not always of the same form and size, yet there is a great similarity between them all.

We may now turn our attention to the large group of sensory endings in which the arborizations of the sensory neurons are surrounded by a capsule which separates them from the surrounding tissues. These as above stated, may be divided in two quite distinct groups,—such as have a capsule of fibrous tissue not distinctly arranged in lamellæ, and such as have a distinctly lamellated capsule. To the former group belong three types of endings, which, owing to their similarity of structure, may readily be described together. These endings are the genital corpuscles, **Meissner**'s corpuscles, and the end-bulbs of **Krause**. They have all recently been investigated with the methylen-blue method by **Dogiel**, and the brief account which I give I have taken from his writings.

Genital Corpuscles.—These corpuscles are found in the deeper part of the mucosa of the glans penis and the prepuce of the male and the clitoris and neighboring structures of the female. Their shape varies; they may be round, oval, egg or pear-shaped, or even slightly lobulated. Their size varies from four-hundredths to nine-hundredths millimeters in breadth and ten-hundredths to forty-hundredths millimeters in length. They are surrounded by a relatively thick fibrous capsule, consisting of three to eight quite distinct lamellæ, between which irregular flattened cells with round or oval nuclei are found. Within this capsule there is found a core, which seems to consist of a semi-fluid substance, slightly granular in fixed preparations, the nature of which is not fully known. The number of sensory nerves going to each corpuscle varies from one to two for the smaller ones, to eight to ten for the larger ones. The medullated nerves after entering the corpuscle divide dichotomously, the resultant branches assuming a circular or spiral course, and interlacing, within the capsule, in various ways. After a few turns the medullated branches lose their medullary sheaths and undergo further division, often dividing repeatedly. The nonmedullated nerves resulting from these divisions, the majority of which are varicose, form a most complicated network, the whole nerve network presenting a structure which resembles a tangle of fine threads. In the meshes of this network is found the semifluid substance of the core. Now and then some of the larger fibers of the network leave the corpuscle, and terminate in neighboring corpuscles, or pass to the epithelium, where they end between the cells.

Meissner's Corpuscles.—These corpuscles are found in man in the subepidermal connective tissue of the hand and foot and outer surface of the forearm, in the nipple, border of the eyelids, lips, glans penis and clitoris. They are most numerous in the palmar surface of the distal phalanx of the fingers; here according to MEISSNER in two and two-tenths square millimeters four hundred papillæ were counted, one hundred and eight of which contained MEISSNER's corpuscles. They are oval in shape, sometimes somewhat irregular and vary in size, being from forty-five μ to fifty μ broad and one hundred and ten μ to one hundred and eighty μ long. They possess a thin connective tissue capsule, in which are found round or oval nuclei, some of which have an oblique position to the axis of the corpuscle. One medullated nerve ends in the smaller corpuscles, two or three or even more in the larger ones. After piercing the capsule the medullated nerves lose their medullary sheaths, the naked axis cylinders making a variable number of circular or spiral turns, some of which are parallel, others crossing at various angles. These larger branches are all beset with large spindle-shaped, round or pear-shaped varicosities. The larger branches after making the windings mentioned, break up into many varicose branches, which interlace and form a most complex network. One usually finds one or several larger naked axis cylinders, which pass up through the axis of the spiral; these give off branches which contribute to the spirals.

End-bulbs of Krause.—Under this designation there are described a variety of endings, which vary slightly in size and shape. These structures are found in the conjunctiva, and edge of the cornea, in the lips and oral cavity, in the glans penis and clitoris and probably also in other parts of the dermis. In shape they may be round, oval or pear-shaped. Their size varies from twenty μ to one hundred μ. They have a relatively thin capsule in which nuclei are quite numerous. One, two, or three medullated nerves go to each end-bulb. These may lose their medullary sheath at the capsule or a variable distance from it. The naked axis cylinders soon after entering the capsule, divide into two, three or four branches, which form several circular or spiral turns in the same or in opposite directions. These fibres then divide into varicose branches, which undergo further division, the resulting branches interlace to form a bundle of variously tangled fibres which may be loosely or tightly woven.

The three end-organs here described—genital and MEISSNER's corpuscles and the end-bulbs of KRAUSE—are, as you may have observed and as DOGIEL has pointed out, very similar in structure. Each type has a thin connective tissue capsule, surrounding a core, consisting of a semifluid substance. One or several medullated nerves go to each corpuscle, which, after losing their medullary sheaths, divide and subdivide into numerous fine varicose branches, which are variously interwoven, forming a more or less dense plexus of interlacing, and according to DOGIEL, anastomosing fibers. The chief differences are those of form and size and of position with reference to the epithelium. Of the three forms of endings the genital corpuscle is the largest, and occupies the deepest position in the subepithelial connective tissue; MEISSNER's corpuscle is intermediate in size, and is found immediately under the epithelium; while the end-bulbs of KRAUSE are the smallest of the three forms of sensory endings and may be found in the papillæ or in the deeper connective tissue.

The sensory nerve-endings with a capsule of concentric lamellæ are large and distinct structures. In this account I shall mention the Pacinian corpuscles, the neuro-muscular spindles and the neuro-tendinous spindles.

Pacinian Corpuscles.—These corpuscles are of an oval shape, and vary much in size. The largest are about one-tenth of an inch long and one-twenty-fifth of an inch broad. The greater portion of the corpuscles is made up of a series of concentric lamellæ, varying in number from twenty to sixty. These lamellæ are made up of white fibrous tissue fibers, rather loosely woven, between which is found a small amount of lymph, in which one usually finds a few leucocytes. The lamellæ are covered on both surfaces by a layer of endothelial cells. Between two consecutive lamellæ there is found an interlamellar space, also containing lymph. Occupying the axis of the corpuscle there is found a core, consisting of a semi-fluid, granular substance in the periphery of which oval nuclei are described by the earlier observers. Usually one large nerve goes to each corpuscle. The fibrous tissue sheath of this nerve becomes continuous with the outer lamellæ of the capsule. The medullary sheath accompanies the axis cylinder through the concentric lamellæ until the core is reached, where it disappears. The naked axis cylinder usually passes through the core to its distal end, where it divides into three, four or five branches which terminate in large irregular end-discs. The axis cylinder may, however, divide soon after it enters the core into two or three or even four branches, these passing to the distal end of the core before terminating in the end discs above mentioned.

Both RETZIUS and SALA state that the naked axis cylinders after entering the core give off numerous short side branches which terminate in small knobs, which remind these observers of the fine side branches or thorns seen on the dendrites of pyramidal cells of the cortex, or on PURKINJE's cells when stained after the GOLGI method. In company with the large nerve fibres here mentioned, SALA has described other nerve fibers, quite independent of them and much finer, which after entering the corpuscle divide repeatedly, the resulting fibers forming a plexus around the central fibre. The Pacinian corpuscles have a very wide distribution. They are very numerous in the deeper part of the dermis of the hand and foot. HERBST found about six hundred in each hand and foot. They are further found near the joints, especially the flexor side. RAUBER found five hundred and thirty in the upper extremity in the neighborhood of the joints and three hundred and seventeen in the lower extremity. They have been found in the periosteum of various bones, in tendons and intermuscular septa and even in muscles. They have been seen in some of the nerve trunks, and near large vessels, and are numerous in the peritoneum, mesentery, and pancreas.

WARTHIN, in a most interesting paper, has drawn attention to certain pathological changes which he has observed in these end-organs. He has described inflammatory, circulatory and degenerative changes in them. Time does not admit of my giving any of the details mentioned by this observer. I desire, however, to call attention to several statements found in his article. He states that in all of his cases in which the mesentery showed changes—one of the places where these corpuscles are found—there was a history of abdominal pain, so severe that in four cases ovariotomy was resorted to as a means of relief. In three of these cases the tubes and ovaries were normal and the pain was not materially relieved by the operation. He adds: "It seems to me that the possibility of primary pathologic conditions existing in the abdominal Pacinian corpuscles and the sympathetic, might be of great value to the gynecologist in throwing some light upon these unsatisfactory cases. In that class of cases the symptoms of which we designate as "reflex," some source of irritation other than in the genito-urinary tract may exist."

Neuro-Muscular Spindles.—It does not seem necessary for me to give at this time a résumé of the literature treating of these sensory endings in voluntary muscle tissue, since this was done by **Doctor DeWitt** and myself in an article published two years ago. Earlier writers looked upon these structures as embryonic germ centres or as pathologic structures. We owe to **Sherrington** the full demonstration of the fact that they are sensory nerve endings, since he has shown that when all the motor nerves of a muscle are degenerated, the nerves going to these structures are not affected. Their size varies somewhat. According to **Sherrington** their length may be from three-fourths of a millimetre to four millimetres, and the diameter of the organ where widest from eighty μ to two hundred μ. Their shape is that of a spindle, as the name suggests. They consist of a small bundle of relatively small muscle fibers, known as intrafusal fibres, which differ structurally from ordinary muscle fibers, inasmuch as they are much smaller, the striation is not so distinct, the sarcoplasma is found in greater amount, and the muscle nuclei are much more numerous. The intrafusal fibres result from a division of one, two, three or even more ordinary voluntary muscle fibres of the red variety, rich in sarcoplasma. The intrafusal muscle fibres are surrounded by a capsule consisting of four to eight concentric layers of white fibrous tissue. Centrally this capsule is continuous with the connective tissue found between the muscle fibres—endo and perimysium. It attains its greatest diameter in the equatorial region of the spindle, and becomes narrower again at its distal end where it may end in the tendon or become continuous with the connective tissue of the muscle. Immediately surrounding the intrafusal fibers is found another connective tissue sheath known as the axial sheath, and between this and the capsule there is found a lymph space to which the name periaxial space has been given. That nerve fibers terminate in this structure has long been known. Our knowledge of their mode of ending is, however, quite recent. **Kerschner** described the ending in 1888, and **Ruffini** more accurately some years later. The facts here are taken from the article by **Doctor DeWitt** and myself, above mentioned. Our results were based on observations made by the methylen-blue method. In the animals studied—dog, cat and rabbit—one or two medullated nerves go to the smaller spindles; four or five, or even more large medullated nerves go to the larger ones. They now and then divide before reaching the spindles, and divide several times as they pass through the capsule, periaxial space and axial sheath. Within the axial sheath the medullary sheath is lost, and the naked axis cylinders terminate either in one or several ribbon-like branches which are wound circularly or spirally about the intrafusal fibres—annulo-spiral endings—or may terminate in a number of larger branches which again divide, these ending in irregular round, oval, pear-shaped or irregular discs—flowerlike endings—which are also on the intrafusal fibers. These flowerlike endings are usually at the ends of the annulo-spiral endings. In the smaller spindles only one area of nerve termination has been observed; in the larger two, three or even four such areas may be found.

Ruffini, in a recent paper, has endeavored to divide the neuro-muscular spindles into three classes, basing his classification on the differences which he finds in the nerve terminations. We can not agree with this observer in this respect and still maintain that the differences described by him are not essential. These neuro-muscular spindles have a very wide distribution. In a general way it may be stated that they are found in all muscles except the extrinsic eye muscles and those of the tongue. They are especially numerous in the muscles of the hand and foot.

In a short paper presented at the Detroit meeting of the State Medical Association, I summarized briefly some observations which had been made on the muscle spindle in pathological conditions. My remarks were as follows:

It has been shown by a number of investigators that in pathological conditions, which lead to degeneration or atrophy of the muscle fibers, the intrafusal fibers and the spindle nerves undergo very little, if any, structural change. The following observations may be of interest in this connection: In 1894 Laura Foster showed that in muscles obtained from cases of muscular atrophy and transverse myelitis, where the muscle fibers were completely degenerated, the intrafusal fibers as also the spindle nerves, were normal. Sherrington has shown that one hundred and fifty days after section of the sciatic in the cat, the intrafusal fibers in the muscle-spindles found in the gastrocnemius were not altered from the normal, while the other muscle fibers were completely degenerated. Horsley has made essentially the same observation. Batton, who has paid particular attention to muscle-spindles under pathological conditions gives the following summary of the result of his work: "In infantile paralysis the spindle remains absolutely normal, although the surrounding muscle tissue undergoes complete atrophy. In tabes it is shown that certain changes take place in the termination of the nerves, the general structure of the spindle remaining normal. In myopathy the spindle and its contained nerve are normal. In progressive muscular atrophy the spindle remains unaltered, and the same is probably true with regard to peripheral neuritis. Section or injury to the nerve trunk leads to atrophy of the muscle fibers within the spindle, though it is probable that it takes a considerable length of time for changes to take place in the muscle fibers within the spindle." Spiller describes a case of intense muscular atrophy with contractures in which, if one may judge from his figure, the intrafusal muscle fibers were normal. Gruenbaum has given his observations on the muscle-spindles in a case of pseudohypertrophic paralysis, in which the muscle-spindles were for the most part unaffected, "but in a few there was a diminution in the size of an intrafusal fiber with deposits of hyaline material around."

Neuro-Tendinous Spindles.—In 1880 Golgi drew attention to a new nerve-end organ found in tendon, describing quite fully its general structure and to some extent the nerve termination found therein. These organs are about as large and the nerve-termination fully as complex as the neuro-muscular spindles above described. They are spindle-shaped structures, measuring from seventy to one hundred and twenty millimetres in breadth and three hundred to eight hundred millimetres in length. In place of the intrafusal muscle fibers found in the neuro-muscular spindles, intrafusal tendon fasciculi are found in the neuro-tendinous spindles. The number of these varies from eight to fifteen or even more. The intrafusal tendon fasciculi are smaller than the ordinary tendon fasciculi from which they originate by division, and structurally resemble embryonic tendon in that they stain more deeply and present many more nuclei. The intrafusal tendon fasciculi are surrounded by a connective tissue capsule, consisting of four to six concentric lamellæ, which is broadest in the equatorial region, and also by an axial sheath which immediately surrounds the intrafusal tendon bundle. Between the capsule and the axial sheath there is found a periaxial lymph-space. The capsule is continuous at the central and distal end of the spindle with the internal peritenonium of the tendon in which the end organ is found.

Golgi regarded these end-organs as sensory in nature and, as above stated, demonstrated the presence of a special sensory ending in them. Some years later Cattaneo demonstrated that after section of the anterior roots of the spinal nerves, the nerves going to the tendon organs remained intact, thus conclusively showing, as Sherrington has done for the neuro-muscular spindles, that the neuro-tendinous spindle is a sensory nerve ending. These nerve-endings have further been described by Kölliker and more fully by Ciaccio, the latter having given us the fullest and most accurate description now in existence. Doctor De Witt and myself have practically finished an investigation on the tendon spindles, more especially on the ultimate ending of the nerve fibers found in them. We have used in this work the methylen-bue method and have been able, we think, to add to the results of observations made by other observers. Our results are briefly as follows:

One, two or three large medullated nerve fibers go to each spindle. These, before entering the capsule, usually branch several times, branching further within the capsule and axial-sheath. When the resultant branches reach the intrafusal fasciculi, the medullary sheath is lost, the naked axis cylinder further dividing into two, three or four branches, each of which runs along on the intrafusal fasciculi, giving off numerous short, irregular side branches which partly enclasp the tendon fasciculi and end in irregular end-discs. Some of the terminal branches pass between the smaller fibrous tissue bundles of the fasciculi, ending between them. The whole ending when well stained, is most complex, as may be seen from the figures to be presented.

The neuro-tendinous spindles are widely distributed. I think it is safe to say they are present in all tendons, although not equally numerous in all. They are especially numerous in the small tendons of the hand and foot, in regions where, as above stated, the neuro-muscular spindles are numerous. These two end-organs are often found very near together, sometimes partly or wholly within the same capsule, although their nerve supply, even when the end-organs are side by side, seems quite distinct. I have found no observations on the behavior of the neuro-tendinous spindles in pathological conditions.

TUBERCULOSIS.*

By CORNELIUS VAN ZWALUWENBURG, M. D., Kalamazoo, Michigan.

[Published in The Physician and Surgeon exclusively]

Practically there is no longer any dispute about the cause of tuberculosis. Scientists are agreed that the bacillus of tuberculosis is the ultimate cause of all so-called tubercular processes. That various conditions must be considered in studying the cause of this disease is also beyond dispute. That one person should have tuberculosis and others not is largely due to what has been called, for lack of a better name, susceptibility to the disease. We say it is due to the lack of resistance on the part of the system and its various cells to the attack of the germs. What the actual difference is in the construction or constituents of the cells, we do not know. That a certain degree of immunity (whatever change in the tissues or cells that name may imply) can be acquired is only reasonable to believe, and is borne out by the fact that many persons undoubtedly recover from attacks of tuberculosis. Still the principal immunity to the disease comes with heredity.

There is no doubt that the germs of tuberculosis are with us always; they are universally distributed wherever man lives upon this earth. I believe that practically we come in contact with them daily. That the communication of these germs from one to another is certainly the cause of the attack, is admitted, but that that is the only factor in the case, is not entirely true, as it is evident to all observers that the tendency to tuberculosis is almost general in some families and entirely absent in others. It will not suffice to say that the difference is due to the accidental difference in the distribution of the bacillus, as some would have it. The concentration of many germs upon one susceptible point of attack is undoubtedly a factor. The virulence of the attacking germs is an important factor, first, in the production of an attack, and second, in the character and course of the disease.

The condition of the general health is a factor, also fatigue and overexertion. The capacity of the lungs is a factor. The character of the air inhaled becomes a factor, principally on account of the effect upon the general health and the degree of presence or absence of bacilli in sufficient quantities. The presence of other germs in the air have an influence by their effect upon the tissues of the body, especially in producing traumatism through which the bacilli can enter. Foreign bodies of all kinds in the air have the latter influence upon the liability of attack.

The degree of moisture of the air is important. Moist depressing climates are conducive to catarrh and to congestion in the effort of nature to send enough blood to the lungs to carry the necessary oxygen to the tissues. A larger stream in the blood-vessels means a slower stream. The lack of oxygenation accompanying it depresses the vital force of the cell and diminishes its power to resist the attack of germs, and the sluggish movement of the army of leucocytes, on account of the slowing of the blood stream, allows cell after cell to succumb until the germ gains a foothold.

The entrance of the germ into the body is through a traumatism as the body is everywhere protected by a hard, dead layer of epidermal cells of skin or mucous membrane which effectually resists attack of germs while remaining intact. When we consider the infinitesimal size of the tubercule bacilli (seven millions being required to fill the eye of the smallest needle) we readily see how minute the lesion may be and still open the way. Microscopic traumatism of the lung is the open door for pulmonary tuberculosis. Traumatism of the mucous membrane of the digestive tract, by allowing entrance into the blood and lymphatic currents, gives ingress to bacilli, which may gain a foothold in any part of the body. I do not know of a tissue which is exempt. The principle factors in the production of tuberculosis are, therefore, traumatism, the presence of germs in quantity, and a lack of immunity—hereditary or acquired, temporary or permanent. Take away any of these three, and the disease will not be contracted.

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*Read before the Kalamazoo Academy of Medicine.

The disease may gain a temporary or partial foothold and be finally thrown off through acquired immunity. In most of the tissues this is a matter of common clinical observation, especially in bone and skin tuberculosis. In the lung also, we are more and more convinced that this is the case. The observers who make many autopsies on cases dying from other causes find that the cicatrices of former tubercular infections are present in the lungs. Doctor Ingals, of Chicago, recently put it to me thus: Ninety per cent. of all people have tuberculosis sometime. Forty-seven per cent. have pulmonary tuberculosis and twelve per cent. die with it. This is a sweeping statement of the prevalence of tuberculosis, but observation and statistics back it up. Undoubtedly, many of the cases which we call "bronchitis" (?) and such as we treat for a "cold" would have the bacillus in the sputum if sought for. But they are not looked for nor discovered; the case gets well promptly and we never considered it tuberculosis, but the autopsy years afterwards would reveal the evidence of a former invasion. The old popular custom of saying that because a person recovered from lung trouble, he had not had tuberculosis, is responsible for the practically universal lay opinion, that consumption is surely fatal. We now know that many, many cases do recover entirely. Our more precise aids to diagnosis allow us to demonstrate it.

Under the head of diagnosis, I will only say a few words about some of the later aids in making the same in pulmonary cases. After all, the principal reliance in diagnosis must remain, physical examination by auscultation and percussion.

I have seen the x-ray applied in a few cases, but the evidence acquired was practically confirmatory only. The shadows cast by the ray are usually those which can be brought out by percussion and auscultation. It is a question of acumen and one must study the rays long and attentively and then possibly some things may be demonstarted, especially the movement of the diaphragm and probably the presence of cavities. But the persistent study of percussion and auscultation will develop an accuracy in diagnosis which will require long study with the x-ray to excel.

The finding of bacilli in the sputum is *the* important factor in the diagnosis. This is comparatively a simple process and should be acquired by every physician who would give an opinion on these cases. It must not be forgotten that cases recover quickly although bacilli are found in the sputum, possibly because the disease had gained no foothold. We should not condemn a person to death because a few bacilli are found in the sputum. Here, as in all the work of the physician, he must retain a bird's-eye-view of his case and consider it from all sides in all its relations.

The tuberculin test is not often necessary. I believe it is very efficient and accurate, but has the disadvantage of producing considerable indisposition for a few days. I have used it in two cases with positive results in both cases, and would not hesitate to use it again.

The treatment of tuberculosis from a superficial view is a chaos. From the blueglass treatment to the climatic treatment and from the hydrogen sulphide gas treatment to the serum treatment we have in our short day seen the pendulum swing through the endless gamut of drug and fancy and superstition in the frantic straining of human effort to devise some means of staying the course of this greatest curse of mankind. What has been accomplished? Many, no doubt, have been rescued. Many have recovered as the result of judicious treatment. Many have recovered in spite of treatment. Many, no doubt, have suffered untold agonies, and others have sacrificed life to the absurd emanations of unbalanced brains. We still hope and we trust and believe that not many years hence human ingenuity shall master this problem, as it has so many before, and we or those who come after us shall enter upon the treatment of tuberculosis with the same assurance of recovery that we now feel in treating diphtheria.

But, we are agreed on some things. First, there are methods of prevention. We must ascertain and kill our tuberculous cows. We must destroy the germs that are ejected by millions by those suffering from the disease. We must disinfect the rooms occupied by them. If patients will not use precautionary measures, the law must compel them to. We are agreed that building up the general health is the keynote of success in the treatment of this dread disease, and that climate is the most important curative measure we have.

Germicides have been used in numberless ways with indifferent success. Creosote stood the test as long as any, but fails to affect the course of the disease in the majority of cases. Oil of cloves is a later one, but offers little more. Nuclein promised much at one time and properly used with reference to the presence or absence of leucocytosis has some value, but the later results are disappointing. The fact is it is impossible to make an artificial germicidal solution of the blood, strong enough to kill the germs of tuberculosis in their hard protective shell without at the same time killing the patient.

In building up the general health, we are dependent upon the rules of hygiene more than upon drugs. Some patients, however, need a great deal of medicine. When the digestion is poor, much can be done with tonics and laxatives. Nux vomica, gentian, murcury, iodides and acids, together with iron for the anemia is often very valuable, especially as syrup of the iodide. Forced feeding is sometimes important. But outdoor life, suitable exercise, cheerful surroundings, wholesome food and drink, in short a life as nearly as possible a nature intended it, is the principle hope of the consumptive.

In climate combined with these principles, we have, according to an almo universal opinion, the best outlook for long life if not complete recover In choosing a climate, we must look first, for a dry air. As in the etiology, s in the treatment, we must avoid congestion from heavy depressing air. To ai in giving lightness and buoyancy to the air we look for some elevation on thousand feet to three thousand feet above sea level is desirable. The air must be pure and not laden with the dust of a populous city nor the dampness of the ocean. In this country, the most nearly ideal places, theoretically, are the table-lands and mountains of New Mexico, Arizona and Utah. But these are barren, practically desert places, almost uninhabited and unable to sustain life by the products of their own soil. Few human beings are so wrapped up in themselves and so contrary to the second law of nature (society) that they can banish themselves to these lonely wastes without suffering more from loneliness and homesickness than can be overcome or offset by any powers of the climate. Those who can comfortebly live in such places, I would advise to go there. Others I would advise to go a little farther and visit a paradise rather than a desert and find the comforts of civilization as well as the pure dry air and equable temperature of Southern California. We have known some patients to go there and receive wonderful benefit, and believe that for the average patient it is the most desirable location in our country.

CROUP.*

BY W. R. HENDERSON, M. D., DETROIT, MICHIGAN.

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CROUP is of two varieties—spasmodic or false croup and membraneous or true croup. Spasmodic croup is characterized by a variable amount of catarrhal inflammation and spasm of the larynx. In the early months of infancy it is a rare disease, occuring most frequently during the second and third years, more rarely after the fifth year. Certain children seem predisposed to the disease and suffer attacks more or less severe every time they take cold. It occurs most frequently in children with enlarged tonsils and catarrhal throats. The exciting cause is usually a cold, though acute indigestion may precipitate an attack in a child predisposed to croup. The larynx is first congested and dry; later there is increased secretion of mucus. The constriction, causing difficult breathing, seems to be due almost entirely to spasm of the muscles of the larynx, there usually being little infiltration or edema.

It is not necessary for me to dwell in detail on the train of symptoms that so suddenly intensifies in the still hours of the night, causing the parents the greatest alarm and the hasty summoning of the family physician. He will have been informed in advance that the child has "croup." A glance will satisfy him that this diagnosis is correct in the main, and his duty will now be to apply himself with all his professional skill to differentiate between true and false croup, for on his decision depends the treatment and, in case of the graver malady, the life of the child, for membranous croup, when treated by the old-fashioned remedies, is almost as certain to cause death as any disease I know, while with early recognition and modern treatment, death has become the exception. Cases that were the most heart-rending to look upon, as we ministered to them with our hopeless medication, we now face confidently, and in the vast majority of cases are rewarded by a recovery, where formerly death was looked upon as a glad release from the throes of a hopeless and pitiful struggle for life.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

If the onset has been sudden it probably is spasmodic croup. If the child has had previous attacks of false croup, it favors a like diagnosis. Still it is not wise to conclude too hastily that such is the case as such a child is just as liable to develop membranous croup as any other, and if your security is only fancied the awakening will be rude. If it is spasmodic, when you make your morning call, the child will probably be playing and unless relieved by treatment, will repeat the attack with equal severity on the following night. If the condition is urgent and there is some doubt, the administration of a little chloroform will relieve the spasm. If it be membranous croup no relief will be experienced. At the onset membranous croup is often indistinguishable from spasmodic croup. There is generally increasing stridor, hoarse voice and croupy cough. The pulse is rapid but does not show the weakness so pronounced in diphtheria. As the disease progresses the voice is lost and the dyspnea increases. As the dyspnea increases there is recession of ths suprasternal fossa, the supraclavicular regions and the epigastrium. The face is pale and anxious and the nostrils dilated. The child tosses uneasily and sometimes struggles violently for air. It finally becomes cyanotic and passes into a condition of stupor, the struggles being confined to convulsive attempts to procure air, at intervals. With all possible care in differentiating there will be cases in which the diagnosis will remain for a time in doubt. Some cases will continue for a number of days without the condition taking on a serious aspect, and when you had expected a complete abatement of the symptoms, too late you will realize your mistake. Sometimes there is a very deceptive morning recession of the distressing symptoms.

The preventive treatment of spasmodic croup consists in keeping up the general tone of the child, removal of exciting causes such as adenoid growths, enlarged tonsils, et cetera. A hot poultice over the throat will assist in relieving the spasm. Steam inhalations with creosote are valuable. Antimony, ipecac, and opium have proven useful. Antipyrin is beneficial when spasm is marked. A full dose will often prevent a recurrence of the spasm if given in the evening. On making a diagnosis of membranous croup a full dose of antitoxin should be given immediately. Calomel fumigation is very effective in relieving stenosis. Intubation should be performed when the child shows restlessness or recession of the epigastrium.

The death rate has always been much greater in the early months of infancy than in older children, and even under antitoxin treatment, while the death rate is much lessened, the same ratio holds good. The percentage of deaths, prior to the introduction of antitoxin, in children ranging from one to ten years of age, ranges approximately from eighty per cent. down to seventeen per cent. Since the introduction of antitoxin, for the same ages, the death rate ranges from thirty per cent. down to five per cent.

My object in bringing this subject before the society has been to urge the necessity and importance of an exact diagnosis, and in case of doubt to advocate giving immediately a full dose of antitoxin, for no disease has so illustrated the life-saving qualities of serum as membraneous croup, especially when administered promptly.

SOME PRACTICAL REMARKS ON THE ANATOMY OF THE TEMPORAL BONE, WITH DEMONSTRATIONS.*

By EMIL AMBERG, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively]

We read that Hyrtl, the famous anatomist, reports with enthusiasm that he read, over the entrance door of a dissecting room in Paris, the words: "Hic locus est, ubi mors gaudet succurrere vitæ." There is, perhaps, no other locality in the human body which justifies so much the meaning of these words as the temporal bone. In no other place do we find so many important parts of the system in one space, and nowhere else can we find so many difficulties in the treatment of serious affections as in this bone. The brain, blood-vessels, facial nerve and the organ of hearing are all located on a small area. The difficulties are not made less by the fact that one important part of the temporal bone, the mastoid portion, shows a great many variations, which require our greatest attention when we are obliged to interfere surgically with diseases of this region. I will speak only of a few facts and demonstrate them as far as possible, confining myself to the size, shape and configuration of the mastoid portion and to the location of the lateral sinus.

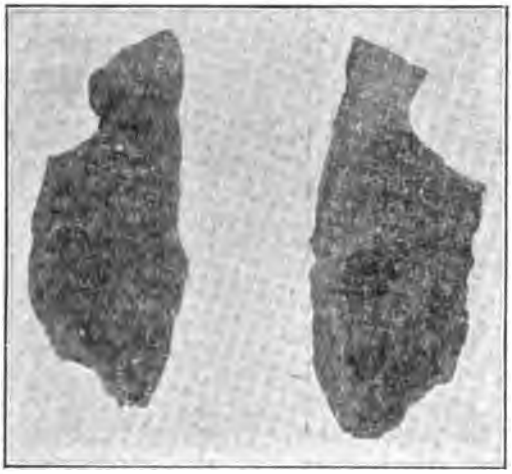
Figure I.

The size, shape and configuration of the mastoid portion are naturally different according to the age of the individual. The specimens which I present give you an idea of the change of the conditions in question (specimens A–1 to A–45 and skulls 1, 2, 3, 4). We see the conditions in the premature, in the infant, and in persons of ages of two and one-fourth years, of three years ten months, of five years, and of the adult. The inner configuration of the mastoid portion is, also, quite varying. We discriminate the following forms of mastoid portions: (a) The pneumatic form; (b) The diploetic form; (c) The compact form; (d) Combined forms. Zuckerkandl reports that out of two hundred and fifty mastoid portions thirty-six, eight-tenths per cent., were found to be totally pneumatic, twenty per cent. totally diploetic, forty-three, two-tenths per cent. diploetic only in the lower half. In the specimens marked B–1 to B–59, which I let circulate, you can readily see the different forms.

Doctor Hickey has photographed some mastoid portions for me. Figure I shows a pneumatic mastoid portion (specimen Number B–57). Figure II shows one especially large cell which extends to the cortex. The lower part is compact (specimen Number B–58). Figure III shows a highly pneumatic mastoid portion (specimen Number B–59).

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*Read before the Detroit Medical and Library Association.

We know that a sclerotic form is frequently found in cases in which there has been a chronic suppuration of the middle ear. We can imagine that in those patients the pus which gathers in the antrum mastoideum will not so easily find its way to the outside as it will in one of the mastoids which show large cells and thin walls between them. Furthermore, we can readily understand how easily in those mastoids in which we see the large cells with thin walls, a perforation can take place at the tip which may lead to an abscess in the neck, a form of mastoiditis which has, wrongly, been named after **Bezold**. Some of the mastoids show a shape of the tip which **Blake** uses to compare with peanut shells (specimen B–56. See Figure IV). These specimens which I show you do not need any further explanation.

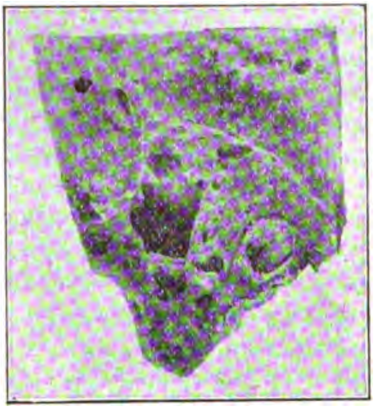

Figure II.

I now come to a part of the temporal bone which is of very great importance. It is a depression on the inner surface of the mastoid process, the sulcus for the lateral sinus. The lateral sinus goes as follows: A line drawn from the protuberentia occipitalis externa toward the posterior upper border of the mastoid process, shows the way of the horizontal part, and a line drawn from the latter point toward the anterior border of the incisura mastoidea shows the direction of the decending part, of which the lowest end goes toward the foramen jugulare (**Jacobson**). The lateral sinus approaches more or less the meatus or the surface of the temporal bone. **Bezold** ("**Jacobson**," page 14) found that in one hundred temporal bones the horizontal distance from the spina suprameatum to the lateral sinus measured less than fifteen millimeters in thirty-two per cent.; less than seven millimeters in fifteen per cent. **Schuelzke** ("**Jacobson**," page 15) found among sixty skulls, that is, one hundred and twenty temporal bones, that the distance between the posterior wall of the meatus and the anterior wall of the lateral sinus was less than six millimeters in five temporal bones of one hundred and twenty; less than ten millimeters in eleven temporal bones of one hundred and twenty.

We see that there is a great variety in the distance of the lateral sinus from the posterior wall of the meatus, and it would be very important to know, before an operation, what conditions we are liable to meet. The aim of the anatomists and aurists was directed to discover means by which we could be enabled to recognize befor the operation whether the lateral sinus is displaced forward or not. **Koernei** said that "The lateral sinus is located more outward in brachycephalic skull than in dolychocephalic ones." However, this view has been reported by other

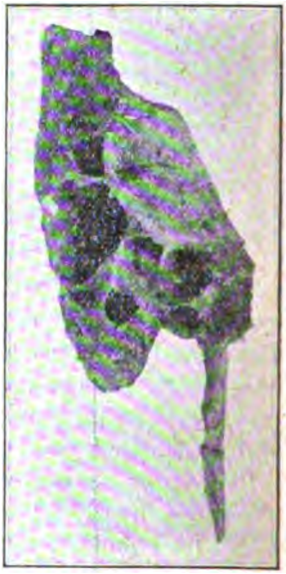

Figure III.

not to be correct and all hope was given up for finding any signs, so that **Randall** came to the conclusion that we ought always operate as if the lateral sinus was displaced forward. Recently, however, **Professor Trautmann**, of Berlin, made some very important and interesting investigations which he laid down in a book entitled "Surgical Anatomy of the Temporal Bone." He accompanies his book with very instructive stereoscopical views, to some of which I will call your attention later on. His observations must be taken into consideration in future. After examining quite a number of cases **Trautmann** says that the cause of the displacement of the lateral sinus is given by the asymmetry of the skull. Each skull, he says, is asymmetric: the right side is, as a rule, smaller than the left; on the smaller side the lateral sinus is displaced forward, therefore the lateral sinus is displaced more forward on the right side. He found the following signs when the lateral sinus was displaced forward:

(1) The eye stands somewhat high on the side on which the lateral sinus is displaced.

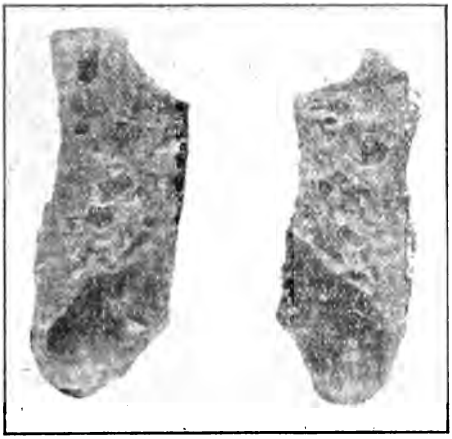

Figure IV.

(2) The septum narium pushed toward the opposite side, a prominence on the opposite side, tip of the nose toward the side on which the lateral sinus is displaced forward, apertura pyriformis larger, stands somewhat higher on the same side.

(3) Hard palate on the same side somewhat higher and narrower.

(4) The incisor is placed a little more toward the side on which the lateral sinus is displaced forward.

(5) Occiput pressed inward, also parietal bone; on the other side pushed outward.

(6) The greater the extent of the planum mastoideum and the more perpendicular it stands to the outer meatus, the less strong the lateral sinus is developed. The planum mastoideum forms an angle larger than the right one with the meatus. This is regarded as the most important sign by **Trautmann** (*Archiv. fuer Ohrenheilkunde*, Volume XLVI, page 300).*

(7) The spina suprameatum is directed more toward inward.

(8) Long diameter of the cross cut of the meatus greater on the same side, the lower blade of the upper wall of the meatus narrower, pushed somewhat toward the anterior wall and the end falling off obliquely (infantile).

(9) Recessus epitympanicus higher and somewhat pushed forward, so that the hammer is nearer to the anterior periphery.

(10) Recessus jugularis higher on the same side.

(11) Veins more strongly developed on the same side of the head and neck.

Trautmann compares the conditions on one side of the head with the other. I will try to show some of **Trautmann**'s signs on the skull. In the skull before me, we see that the lateral sinus is more protruding on the left side than it is on the right, the orbita appears less diagonal on the left side, the apertura pyriformis is somewhat larger on the right side. The septum, which is only partly present, shows in its posterior part a deviation toward the right, in its anterior part, however, a deviation toward the left side. The left occiput is depressed, the right occiput pushed outward, on the left side the planum mastoideum forms a more obtuse angle with the posterior wall of the meatus (132°) than on the right side (118°).

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* **Katz**, of Berlin, called attention to this phenomenon, two years before **Trautmann**'s book came out, in the *Deutsche Medicinische Wochenschrift*, 1896, Number L. (See *Archiv. fuer Ohrenheilkunde*, Volume XLVII, page 183.)

It would be interesting to know whether we can find sufficient signs on the temporal bone alone to indicate the position of the lateral sinus. First of all, however, we must consider when we have to regard the lateral sinus as displaced forward. As I mentioned above, Bezold found that of one hundred temporal bones, in thirty-two the distance of the spina suprameatum from the lateral sinus was less than fifteen millimeters; that it was less than seven millimeters in fifteen; and further that Schuelzke found, in one hundred and twenty temporal bones, the distance from the posterior wall of the meatus to the lateral sinus to be less than ten millimeters in eleven temporal bones, or in nine per cent. However, these facts do not give us any information for our purpose.

In order to form an idea when we ought to consider the lateral sinus as displaced forward, from a surgical point of view, I constructed a diagram of the conditions which we expect when we operate after Schwartze. (See Figure V.) Holmes (see Textbook of "Jacobson," 1898, page 280) says that the level of the posterior upper margin of the drummembrane lies, as a rule, fifteen millimeters from the spina suprameatum. The distance of the antrum mastoideum from the meatus is, after Bezold, two millimeters or less ("Schwartze's Handbook," Volume II, page 805). Schwartze says that the mastoid has to be opened, as a rule, five to ten millimeters behind the spina suprameatum, and that the width of the outer opening might be twelve millimeters. After these measurements I made a diagram (see Figure V) in the following way: I constructed a trapezoid with a right angle, one side of which, B C represents the distance from the spina suprameatum to the antrum, fifteen millimeters (after Holmes), the top of which, D C represents the distance from the posterior wall of the meatus to the antrum, one and five-tenths millimeters (after Bezold, two millimeters and less) and the base of which represents the distance of the anterior border of the opening E, from the anterior border of the posterior wall of the meatus B, for which distance, E B, I allowed one and five-tenths millimeters which allowance certainly cannot be considered as too liberal. For the second part of the base, E A, I allowed twelve millimeters, the largest diameter according to the teachings of Schwartze. If we connect A with D and draw the perpendiccular from B on A D we find that this perpendicular, B F, has the length of about ten and six-tenths millimeters. I do not think we go much out of the way in regarding the lateral sinus which approaches more than ten and six-tenths millimeters to the spina suprameatum as displaced forward.

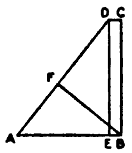

FIGURE 5

You see on this chart (see Chart I) the measurements of the five temporal bones by Trautmann and of seventeen out of my collection marked I to XVII; the specimens themselves are marked Lateral Sinus I–XVII. Although my collection cannot compare with Trautmann's, yet they ought to give a fair idea of the gradual changes of some of the conditions depending from the development of the lateral sinus. Some of Trautmann's points I applied to my specimens. (See Chart I.)

CHART I.

TRAUTMANN

No.	Stereo-scope	Distance Spina s. meat. lat. sin. in m.m.	Thickness of thinnest spot of wall of lat. sin.
I.	21	13.0	9.0
II.	53	3.0	1.0
	54		
	55		
III.	56	3.0	0.75
	57		
	58		
IV.	59	6.0	4.0
	60		
V.	61	4.0	3.5
	62		

AMBERG

	1	2	3	4	5	6	7	8	9
No.	Right or Left	Distance spina s. meat. lat. sinus in m.m.	Thickness of thinnest -pot of wall of lat. sin.	Angle between Plan. mast. and post. wall of meatus.	Appearance of development of recess. jug.	Relation of floor of tymp. to meatus.	Long diameter of crossout of meatus.	Short diameter of crossout of meatus.	Long diameter in percentage of short diameter.
I.	right	21.0	10.0	114°	1	—	9.0	6.0	150
II.	left	20.0	3.25	101°	1	+	9.5	7.0	136
III.	left	18.0	6.0	101°	2	+	8.0	6.0	133
IV.	left	16.0	7.0	108°	0	—	8.0	5.0	160
V.	left	14.5	6.5	129°	2	—	9.0	5.5	164
VI.	left	12.0	2.5	136°	3	+	8.0	4.5	177
VII.	right	11.5	8.25	137°	1	—	9.0	5.0	180
VIII.	left	11.5	7.5	146°	1	+	11.0	6.0	183
IX.	right	11.0	5.5	131°	2	+	10.0	7.0	143
X.	left	9.0	8.0	144°	2	(+—)	8.0	5.5	145
XI.	right	8.0	6.5	145°	2	+	10.0	6.0	166
XII.	right	8.0	6.0	138°	2	(+—)	9.0	4.5	200
XIII.	left	8.0	5.0	161°	2	(+—)	8.5	5.0	170
XIV.	right	8.0	4.75	147°	1	+	8.5	5.5	155
XV.	right	8.0	2.5	153°	3	+	10.0	5.5	182
XVI.	right	6.75	6.5	160°	3	+	7.5	5.5	136
XVII.	right	6.0	2.5	148°	2	(+—)	8.5	5.0	170

In column one, I noted whether the temporal is a right or a left one.

In column two, we find the distance from the spina suprameatum to the nearest point of the lateral sinus in millimeters.

In column three, we see the width of the wall of the lateral sinus where it is the thinnest.

In column four, I marked the angle which the planum mastoideum, directly under the linea temporalis, forms with the posterior wall of the meatus.

In column five, I noticed, after rough estimation, the degree of the development of the recessus jugularis (from 0 to 3).

In column six, I marked by a minus sign (—) specimens in which the floor of the tympanum is lower than the inner end of the lower wall of the meatus, and by a plus sign (+) I marked those in which the tympanum is on the same level with the inner end of the lower wall of the meatus. By (+ —), I marked specimens in which there is a doubt.

In column seven, I marked the length of the long diameter of the cross cut of the meatus.

In column eight, the short diameter of the cross cut of the meatus is recorded.

In column nine, I expressed the relation of the long diameter to the short diameter in percentage of the latter.

Trautmann's rules can naturally only conditionally be applied to my specimens. Specimens I, II, XVII were photographed by Doctor Hickey. (See Figures VI, VII, VIII). Trautmann had at his disposal temporal bones in which the degree of displacement is much greater than in ours, and secondly, Trautmann compares, as a rule, the two sides of the skull one with another, as I said before. However, I repeat, it would be interesting and important to know whether some of the signs apply also to single specimens. In this case I think that a comparison in groups might give a fair idea. However, let me say before that there are more "dangerous" bones among the right ones than among the left ones. (Column 1.) This agrees with Trautmann's views. Let us first compare the average value of specimens I to IX and X to XVII:

CHART II.

Column	2	3	4	5	6	7	8	9
I-IX	15.1	6.3	123°	1.4	—	9.06	5.78	157.0%
X-XVII	7.7	5.2	149°	2.1	—	8.75	5.31	164.7%
Difference in favor of I-IX	+7.4	+1.1	—26°	—0.7	—	+0.31	+0.47	—7.7%

In looking over the compilation we must admit that our findings, taken as a whole, agree with those of Trautmann. We might perhaps say that the differences between the two groups do not reach a very high degree; however, we must consider that we might, perhaps, exclude numbers VI, VII, VIII and IX because these specimens are, probably, better to be added to the second series than to the first. If we take the average of the measurements found in the first five specimens and compare those with the last eight, then we find: (See chart III.)

CHART III.

Column	2	3	4	5	6	7	8	9
I–V	17.9	6.5	110.6°	1.2	—	8.70	5.90	147.5%
X–XVII	7.7	5.2	149°	2.1	—	8.75	5.31	164.7%
Difference in favor of I–V	+10.2	+1.3	—38.4°	—0.9	—	—0.05	+0.59	—17.2%
Difference in favor of I–IX	+7.4	+1.1	—26.0°	—0.7	—	+0.31	+0.47	—7.7%

We see that the difference becomes more marked. Perhaps the result would be still more interesting if I knew exactly how **Trautmann** measures. On this point I make a plea that one way of measuring might be agreed upon.

Comparing the single specimens one with another we find that the lower wall of the tympanum stands on nearly the same level with the lower wall of the meatus in numbers II, III, VI. Concerning number II we probably have a rhachitic bone before us (see specimen and Figure VII). We see, for example, that the lateral sinus is separated from the outer part of the bone only by two thin layers of bone, including a large cell. Furthermore, the fissura squamo-mastoidea is plainly developed. There exists also a fissura between the anterior part of the petrous bone and the squamous portion of the temporal bone, sutura petro-squamosa, and we have defects in the anterior wall of the meatus.

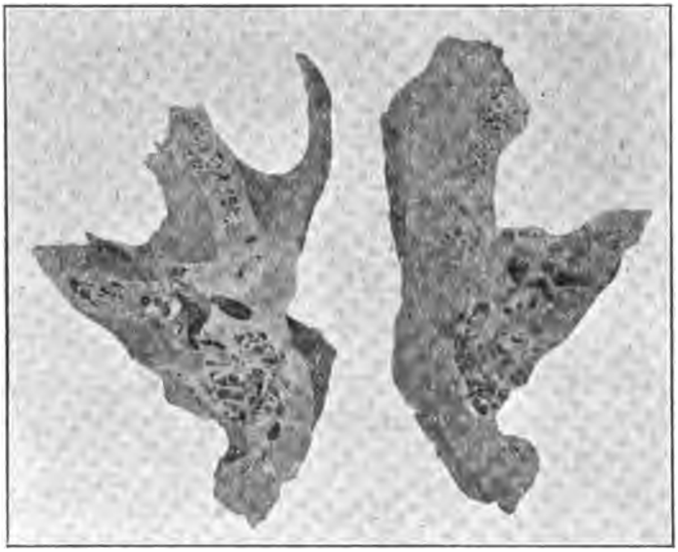

Figure VI.

As to specimen III we notice that the fissura squamo-mastoidea is partly present.

Concerning VI we might say that this specimen remains on the limit of the two characters; besides this we notice that the thinnest spot is only two and five-tenths millimeters thick.

It would be important to pay attention to the question whether the sideward displacement of the lateral sinus must not be considered just as well as the forward displacement. (See specimen VI).

Concerning point nine we see that especially specimens IX, X, and XVI seem to make an exception.

Specimen IX has a very wide anterior wall of the meatus with some (artificial ?) defects. The sutura petro-squamosa is partly present. The surface of the mastoid portion is uneven. Number X shows a very broad thinnest diameter which might induce us to classify it before some of the other specimens. Number XVI shows an uneven mastoid portion, and a comparatively wide thinnest diameter. I recall the opinion which I expressed concerning the forward displacement and sideward displacement.

If we look over our specimens, presented here tonight, we see that the position of the lateral sinus is varying a good deal. In operating on the mastoid portion this has to be borne in mind. It does no harm if the lateral sinus is exposed and it is not regarded, nowadays, as a rule, as dangerous when it is injured. However, the injuries of the same ought to be avoided; at least, it makes it mostly necessary to postpone the opening of the antrum. The injury of the lateral sinus and of the other important points is best avoided when we see where we are working.

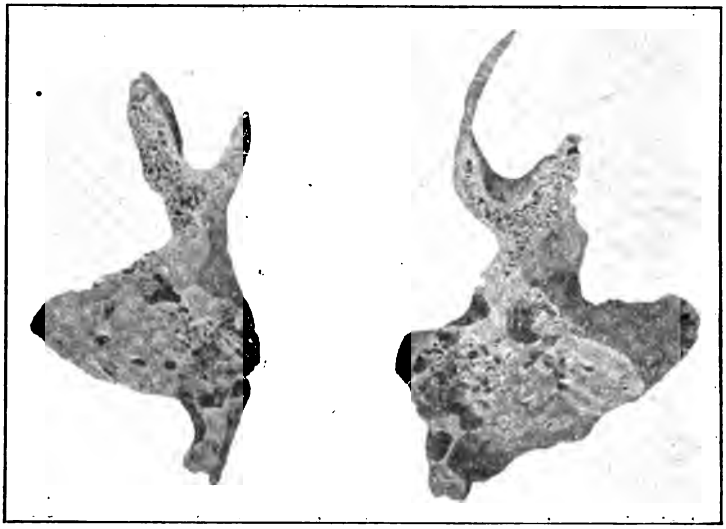

Figure VII.

We know that it is a principle in surgery not to work in the dark. We rely on as many of our organs of sense as possible under the circumstances, and no one can object if I say that the eye is the first and principle organ to guide our hand. If we apply this principle to the mastoid operation, we must follow the advice of Schwartze ("Handbook," Volume II, page 803) that the outer opening must be made so large that we have at all times during the operation a good view of the cavity in the bone. I think this can be reached best with a chisel. Schwartze says: "The chisel must undoubtedly be preferred to any other instrument, because it adapts itself the best to the varying conditions presenting themselves, and because it is the safest instrument if we consider the injuries which are possible." I. Orne Green, in the "American Textbook of Diseases of the Eye, Ear, Nose and Throat," 1899, page

802, only recently, said: "In my opinion, the only proper instruments are chisel and mallet, round burs for the thinning of the inner cortex, and rongeurs for enlarging the first opening made." We know that **McEwen** is a strong defendant of the bur and the gouge ("**McEwen**," 1893, page 303, *et sequentia*). He uses, however, the superameatal triangle for the operation. **Barr** ("Manual of Diseases of the Ear," 1896, page 94) adopted **McEwen**'s method and abandoned the chisel and mallet. He says that the chisel and mallet require very experienced hands and that the chisel leaves behind a condition of the mastoid which is objectionable from an aesthetic point of view. Concerning his first point, I think that the operation should never be done by inexperienced hands, and, besides this, I am not so much convinced that a bur requires less skill; at least, we know that it is handled by very experienced hands when used by **McEwen**. Concerning his second point, I do not think that the condition of the mastoid is so very bad from an aesthetic point of view especially when we consider that the auricle covers the scar to a more or less great extent. Besides this, the mastoid operation is done in serious diseases and we cannot be governed by cosmetic reasons. I do not quite understand how the radical operation can be done as well with the bur and gouge as with the chisel. I should like to know whether **Barr** would not be inclined a little more favorably to chisel and hammer after having seen the way **Jansen** uses the same.

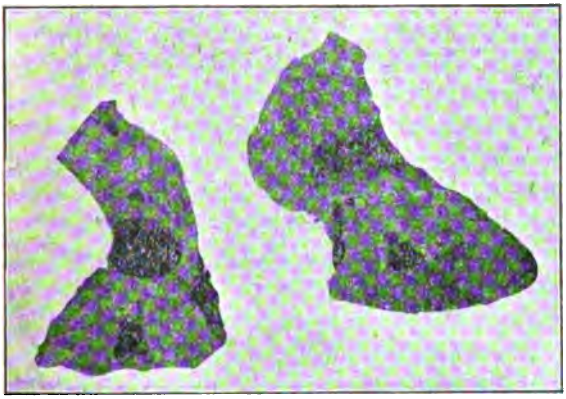

Figure VIII.

I must mention a newly devised method for operating on the mastoid, of which we can easily form an opinion. In one of our leading journals a colleague advocates a method of which he feels confident that it is destined to supersede all others. Here is a short description of the same:

"A small plug of skin is cut out by a cutting trephine (after the picture the diameter of the opening in the skin is about five millimeters) then a boring drill is used, and afterwards a dental bur."

Our colleague reports five successfully operated cases. We see in the picture that the location of the opening is entirely different from the location which **McEwen** chooses.

I show you a drawing which I made after the picture in "**Politzer**'s Textbook" (translated, edited 1894, page 50). If we would operate on this bone after the method of our colleague we cannot, in my opinion, help injuring the lateral sinus; and if we would in such a case meet "a condition in the mastoid cells resembling tubercle," of which the doctor speaks, then we would probably have an infection of the lateral sinus. But even if we had only a hemorrhage from the lateral sinus we could not control it so easily. Besides this we must consider the facial nerve, the horizontal semicircular canal, et cetera. If we think of the anatomy of the temporal bone we see that this method must be discouraged by all means. I am sure that further consideration will convince our colleague that such a method cannot be recommended, to say the least. The doctor emphasizes the contrast between the simplicity of his method and the elaborate one which he saw abroad. If the doctor speaks of the great preparations and says that a number of men and nurses were engaged in the operation, we must say that we cannot command nature but we have to adapt ourselves to its rules. The words of CICERO hold good also in mastoid operations: "Naturam sequi semper optimun est." A mastoid operation is a major operation which ought not to be done without proper assistance. Our colleague says further of the radical operation: "A hideous deformity of the auricle necessarily results, the ossicles and membrana tympani are destroyed, removing all chance for the recovery of useful hearing."

Without entering into a lengthy discussion, I should like to mention that a hideous deformity of the auricle must be regarded as a very rare occurrence. I saw quite a number of cases in which the above-mentioned operation was done, but I do not remember at present to have seen a single case in which there resulted a hideous deformity of the auricle. They might occur, especially when the operation is not done under great aseptic precautions. KOERNER ("Die eitrigen Erkrankungen des Schlaefenbeins," 1899, page 102) reports that a surgeon who had a series of cases of perichondritis of the auricle does not see any more of them, since he operates in a good operating room, instead of operating in the out-patient department, as he did before. Concerning the function of the ear, KOERNER says (*loco citato*, page 106): "In most cases an improvement of hearing results after the operation."

In conclusion, permit me to emphasize the following points:

(1) It is advisable that TRAUTMANN's discoveries be regarded in future.

(2) In operating on the mastoid portion the outer opening in the bone must, if possible, be made so large that all work in the depth can be done with proper illumination and under supervision of the eye.

(3) The chisel and mallet are the main instruments in operations on the mastoid portion.

(4) Operations on the ear ought to be done only after considerable exercise on the dead body or on specimens.

(5) The field of otology has of late become so large that the time seems not to be far distant when the combination "Oculist and Aurist" will cease. The importance of otology will then be better recognized, as it deserves, and, then this branch of general medicine will become more and more beneficial.

32 ADAMS AVENUE WEST.

DYSPNEA.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

ANY obstruction to the entrance of air, whether partial or complete, is followed by an abnormal rapidity of the inspiratory acts. The condition caused by any interference with the free exchange of gases in the lungs, or by any circumstance in consequence of which the oxygen of the blood is used in an abnormally quick manner, is known as dyspnea. It is accompanied by a sense of uneasiness and suffocation, due to the action of the deficiently aerated blood on the medullary centres. Air which has been breathed over and over again becomes unfit to breathe, because it fails to purify the blood, thus having a similar effect on the nervous centres.

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*Read before the UPPER PENINSULA (Michigan) MEDICAL SOCIETY.

How often are we called upon to treat patients occupying rooms through which does not circulate more than seven hundred or one thousand cubic feet of air, with doors and windows unopened for hours at a time; with storm windows, curtains and door rugs, intended to keep out the cold and wet, but in the absence of proper ventilation retaining sufficient poisoned air to cause headache, languor and a sense of oppression that often mask the symptoms of the real disease. It is a remarkable fact, however, that the organism after a time adapts itself to a very vitiated atmosphere, and that a person soon becomes accustomed to and inhales it without sensible inconvenience, though when he first enters that atmosphere it seemed intolerable. Such an adaptation, however, can only take place at the expense of a depression of all the vital functions, which must be injurious if long continued or often repeated. Therefore, it becomes our duty, as conservers of the public health, to remind the ignorant of the danger of inhabiting nonventilated apartments, especially as sleeping rooms. There is no doubt that many diseases are propagated by poor ventilation, and the system is more susceptible to infection. The constant and plentiful supply of fresh air, and the removal of that which is impure, is of far greater importance than the actual cubic space per head of occupants (PARKS).

Dyspnea is never a disease, but it often constitutes the only, or certainly the main, symptom of disease. Many and varied are the causes of this important condition. Position and fever often augment the number of respirations, but seldom effect the ratio between it and pulse, which is often of great importance in the morbid condition causing the change.

The most severe forms of dyspnea occur in membranous croup, tuberculosis, pleurisy, chronic endocarditis, and certain forms of nervous irritation, for example, asthma and spasmodic croup, hysteria, angina pectoris.

When dyspnea occurs in tuberculosis the disease is usually in an advanced stage. No permanent relief can be expected. Inhalations of oxygen, camphor and acetic ether—one part to ten, or internally, Hoffman's anodyne are good, but sooner or later morphine must be used, if only to secure temporary relief.

In pleurisy we usually have shortness of breath in an early stage, due to the stitch, and this is often replaced by dyspnea when there is a rapid filling up of the pleural cavity; but the respiration soon adapts itself to the changed conditions, and patients experience little inconvenience therefrom. We should be very cautious in these cases and tap early, for the occurrence of sudden death from pleural effusion has occasionally taken place.

The dyspnea of heart disease, usually due to left auricular failure (mitral valve disease), is very frequently a decidedly troublesome symptom. Perfect rest in an easy position, nitroglycerin one per cent. solution, one or two drops every two hours on sugar granules, or hypodermatics of morphia sulphate give the best results.

When mitral stenosis is the cause, bleeding will often relieve. Not only is this a temporary indication, but its fulfillment effects relief for a considerable time. Other kinds of cardiac dyspnea are improved by digitalis and iodide of potassium. In membranous croup the dyspnea is not only due to the narrowing of the larynx, but to the constitutional effects of the poison on the nervous centres. The fatality of this disease has greatly diminished in the last few years, thanks to antitoxin serum. It has robbed death of many a victim.

Transitory forms of dyspnea occur during pregnancy, anemia and digestive disturbances, all of which are readily relieved by removing the cause and administering the proper remedies.

Aneurysm and other tumors may cause dyspnea from pressure on the recurrent laryngeal nerves or trachea. Removal of these growths brings relief.

In hysteria the dyspnea is of a catchy nature. No special distress occurs, the pulse remaining normal. Remarkable disturbances may develop in some of these cases. I know a young man who suffers to an extraordinary degree from dyspnea if he indulges to freely in alcoholic stimulants. The attacks are not unlike those of angina pectoris. I remember in one instance seeing him in one of these excited conditions. His face was flushed, the breathing was short and quick, attended by choking and dryness of the throat. The suffering was intense. The family expected death, and their expectations approached realization. The treatment on previous occasions consisted of rest in bed, hypodermic injections of nitroglycerin and morphia. These had effected partial relief when given in maximum doses, but the untoward effects of the morphia had usually been so disagreeable that inhalations of chloroform were resorted to with better success, without any after effects. On this occasion chloroform was used as before, and with speedy relief. At this stage another physician, who had been called during the excitement, arrived. After consultation we continued the same treatment. Soon another attack came on, and after he had drawn a few breaths his excitement suddenly ceased; also pulse and respirations, accompanied by all the signs of death. Inversion, artificial respiration and hypodermics of brandy and strychnine were used in the order named, but apparently without avail. After continuing artificial respiration for some minutes a faint heart-beat was heard, and a short gasp for breath was noticed. Gradually the pulse and respiration returned, and soon our patient passed into an apparently natural sleep. The cure was permanent as far as this attack was concerned.

But this little experience would scarcely warrant us in using this drug in future attacks of dyspnea of this nature in this case. We are now satisfied to rely on morphine with all its ill effects.

The cause of the dyspnea and nervous excitement in this case was attributed to alcohol. But how did the alcohol bring about the disturbance? May it not have affected branches of the vagi which supply sensation and motion to the laryngeal muscles? for example, paralysis of the posterior crico-arytenoid muscles would produce a narrowing of the larynx, and thereby cause a similar result.

Certain toxic agents circulating in the blood, as in diabetic and uremic coma, cause dyspnea, which usually indicates great danger. In Bright's disease the change in the respirations may and often is the only symptom. It is of an asthmatic type. These cases should always be carefully looked into, for the cause may arise from the effects of other impurities in the blood acting upon the nerve centers. Proper attention to the mode and manner of living, including diet and medication, will do much to alleviate the suffering of many a victim of that dread and fatal disease.

Then we may have sudden attacks of dyspnea and be unable to define any cause, the patient often being too fat to allow of a satisfactory physical examination.

SOME CASES OF BRAIN SURGERY.*

By IRA N. BRAINERD, M. D., Alma, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Case I.—While Jesse N., aged thirteen years, was celebrating the 4th of July 1896, with his companions, a dynamite cartridge suddenly exploded. The shell kicked backward and struck the boy in the forehead, below the hair line and to the left of the longitudinal sinus. He was knocked down and rendered temporarily unconscious. In a few moments, however, before aid could reach him, he had sufficiently recovered to walk home. A physician who had been summoned, wiped away some brain matter, the mother affirms, washed and dressed the wound, and promised a speedy recovery. He said that the skull was not broken and that the boy was doing well. However, the wound did not heal, although the boy was able to move about freely. I saw the patient about the 20th of January, 1897. Upon examination, I found that his skull was fractured and that there was a fistula in the brain, the wound having never healed. It continued to discharge a thin pus, and the boy was becoming anemic and mentally dull. On January 28, 1897, the boy was taken to the hospital where I trephined the skull. The sinus led back into the brain about an inch, into the arm and leg area on the left side, where I found a piece of the skull, which had been driven back by the cartridge. I removed the fragment, cleaned out the space and made it aseptic. I now filled the cavity, which was large enough to thrust my thumb into, with iodoform gauze. The operation was performed late in the afternoon. The next morning there were some indications of pressure, namely, a fit, frothing and stupor. I removed some gauze and the symptoms ceased. On the fifth day he had a spasm of the arm and leg on the right side, followed on the sixth day by two more convulsions. Examining the wound, I discovered no cause for these convulsive movements, except the wound itself. On the eighth day he had a slight clonic spasm of the right shoulder, which was the last of these manifestations. Immediately after the operation, paresis of the right arm and leg set in, growing worse until the fifth day when it had reached its maximum. The right arm was useless and the leg was nearly so, although the patient was able to walk with assistance. Partial recovery from the paralysis of the right arm began at the end of the first week and convalescence speedily followed. In ten days he was dressed; on the twelfth day he left the hospital and is now able to resume his school work.

Case II.—Jensen J., a fireman, was run over by a backward moving construction train, while in the employ of the railroad company. He was extricated from under the wheels in an unconscious condition, giving involuntary tokens of pain, such as moaning and writhing. After his removal to the hospital an examination of his injuries was made. He had one scalp wound, extending from the outer end of the right supraorbital ridge convexly upward to the sagittal suture, backward, downward and outward, ending half way between the auditory canal and the occiput. The wound was twelve inches long and the scalp enclosed by this semicircular cut was turned down over the right ear. The skull was fractured and depressed about one by two inches in this area. A similar scalp wound, five inches long, was situated up on the left parietal region. It was also turned down and uncovered another depressed fracture, which was half the size of the first one. There was also a third and smaller wound back of this and another slightly depressed fracture. Cinders were found ground in the face and wound. His right arm had been run over just above the elbow and his forearm dangled in its bloody sleeve. There was no profound shock. The patient evidenced some pain but lost very little blood. After trephining on the right side and removing the crushed bone, I disclosed a ragged hole, about one by two inches. After replacing and sewing on the flap of scalp, I turned my attention to the left side. I trephined and elevated again, encountering only slight hemorrhage while sewing this flap. Thus far there were no additional signs of shock, but upon penetrating the skull for the third time the patient began to lose pulse, breathe slowly, perspire, and the pupils became dilated. After the operation was finished, I waited for the patient to rally before amputating his arm. He soon revived and I set about clearing the arm preparatory to operating, when I noticed a pallor come over the patient's face. He was sinking rapidly and lived only about half an hour. In this connection it would be interesting to know if shock is greater after trephining over the posterior and lower portions of the cerebrum than over the forward and middle portions. Possibly, had I delayed treating the fracture and hazarded whatever ill effect the pressure might have had upon the optic centers, and amputated the arm instead, he might have recovered.

Case III.—Jay Van L., aged seventeen years. I first saw this case on the 4th of April, 1898, and elicited the following history: Five weeks prior to this date he had been seized with measles and several weeks before that time he had received a blow upon the head while in the act of tossing a peevy over his head from the left to the right shoulders. It struck a limb and fell back upon his head, injuring it slightly. He continued at his work. The measles ran a severe course and after the eruption disappeared the patient was left with a fever, headache, tenderness over the left parietal bone, hyperesthesia of the scalp, emaciation and prostration. These symptoms had persisted and grown worse until the parents, becoming alarmed, requested me to see the boy with the attending physician, DOCTOR CHRISTMAS of Riverdale. I found the patient emaciated, anemic, with a temperature of 102° to 104° when without antipyretics. He had severe headache at times and was very tender upon percussion over the left parietal bone as far back as the fissure of Rolando. He communicated by signs and could phonate but was unable to speak, although he understood what was said to him. There was no paralysis of the vocal apparatus. I diagnosed cerebral inflammation in Broca's convolution, with impending suppuration, if it were not already present. I advised the father what course the case would pursue if it were too late to intercept suppuration. The symptoms quickly supervened, namely, paresis of the left side of the face, transitory paresis of the right arm, marked convulsions with rolling of the face and eyes upward and outward, also frothing at the mouth. I had informed the father that a trephining operation was necessary and three days later he called upon me to operate. The patient was chloroformed, his head shaved, and an aseptic operation performed upon him. The fissure of Rolando was located by Thane's method, and thence the spinal and arm centres. I came down upon the top of the abscess, cleaned it out, washed it, and put in a drainage tube. The patient was left in charge of DOCTOR CHRISTMAS and has completely recovered.

The text-books recognize both injuries and the exanthemata as causes of cerebral abscess. This case showed an injury to the head nine weeks before, and measles five weeks before the accident, and continued illness from that time until convalescence from the operation.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, SEPTEMBER 25, 1899.

THE PRESIDENT, CHARLES DOUGLAS, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR EMIL AMBERG read a paper entitled "Some Practical Remarks on the Anatomy of the Temporal Bone, With Demonstrations." (See page 513.)

DOCTOR W. R. PARKER: There is no man in the world for whom I have a more profound respect than for the original investigator. In this practical age, when most of us are willing to rely upon the work of others it is a relief to see a man devote his time to the minute anatomy of those parts of the body connected with his special line of investigation. I congratulate the doctor on his excellent paper. I happened to know particularly about the work done by DOCTOR RANDALL along this line. After many extensive investigations he came to the conclusion that unfortunately there is no definite relation between the position of the lateral sinuses and the external measurements. Practically, however, it does not make very much difference. I think the majority of operators do not take this into consideration, and even if the sinus is open it is not a very serious matter from a surgical standpoint. In the three cases which have come under my observation I have not seen any unfortunate results. I have not had any experience with the burr in operative work. The chisel, doubtless, is the best instrument to employ.

DOCTOR EUGENE SMITH: DOCTOR AMBERG's paper and his beautiful specimens very fully cover the subject from a collective point of view, but I know of no portion of the anatomy where individuality plays a more important part than the mastoid in relation to surgery. Hence, great care is necessary in operating, and the peculiarities of each case should be noted as one progresses. This subject is one, perhaps, of more importance to the specialist than it is to the general practitioner. True it is that general practitioners come across many cases of disease of the ear. Speaking of the treatment of this condition as comparatively easy, is all very well from a general view of the subject, but when it comes to operating we must take into consideration the individuality of the patient, for as has already been said no two mastoids are exactly alike. One must know the general anatomy of the part, what to expect, what to fear, what to be on the alert for, and what to do when he penetrates the cavity. Otherwise he has no business to operate upon mastoids, and one can only acquire that knowledge by special study. I am very much amused by the drill operation mentioned by DOCTOR AMBERG as made by some doctor from Texas. He showed me the article. Some thirty years ago we used the drill, and I can say that while I operated very successfully with the drill, and have had fairly good results, yet I do not consider it the best method to employ. I do not believe that with the drill alone MACEWEN was able to complete the operation. He was very apt to begin by opening with the drill and finish with rongeur. It is most emphatically unsafe. I had reason to believe tonight that the question of opening the lateral sinus would be spoken of, and DOCTOR PARKER having mentioned the matter I shall relate the history of a case of my own: MISS J. L., aged thirty years, had an attack of la grippe which was followed by suppuration of the middle ear, left side. I first saw her near the first of last May and found a profuse suppuration with large ulceration of the drum membrane. There was no swelling or pain over the mastoid region. Ordinary treatment had little effect. Temperature varied from 97° to 101°. On May 9, tenderness over the antrum on pressure, though there was no swelling, caused me to advise operation. I operated May 10, in the presence of alumni and students of the Detroit College of Medicine. There had been no indication of thrombus of the lateral sinus, and yet while scooping the debris of the cells, on the point of completing the operation, I drew out a rather large cylindrical plug from the region of the sigmoid sinus. It was so suspicious in form that after thoroughly washing out the cavity with antiseptics I searched for more and succeeded in removing several pieces of cylindric form before free hemorrhage from the upper and lower ends of the sinus foretold the complete removal of the thrombus. The case aside from this feature was like most others, and the dressings the same after thoroughly packing the sinus. For forty-eight hours the temperature was normal. Then a chill followed by profuse prespiration with a rise of temperature to 105° betokened an absorption of toxins or a cranial complication. The optic nerves were normal, but the retinal veins were very dark though not tortuous as seen with the ophthalmoscope. Pulse ranged from 86 to 100. Quinine was given in ten grain doses with the effect of reducing temperature and pulse. For three days the temperature vacillated between 98.2° and 100°, after which it remained normal and the patient was discharged May 28, 1899. The microscopic examination of the thrombus led me to think it was not yet septic, but I am very sorry I did not have a culture made from it. This case illustrates the fact that opening the lateral sinus is not necessarily a dangerous complication, and also that the temperature rising to 104° and 105° does not always call for further operative procedure to see if there be brain complication. This case recovered more rapidly than did a perfectly simple uncomplicated case operated upon a few minutes later. From experiences in several cases which I have operated upon following la grippe I have come to think that the temperature is not a thoroughly reliable symptom, that it may and does vacillate between normal and 101° and 102° while the mastoid progresses favorably. I do not hesitate to say that I believe in many of these cases the temperature is very apt to make one decidedly anxious, in cases following la grippe particularly, and DOCTOR AMBERG will recall a case of his own which, by courtesy, I saw with him recently. As already stated, the subject is one of deep interest to the specialist. The danger arising from mastoid troubles should lead the general practitioners to be on the alert, and never tell patients or parents of little patients who may have a suppurating ear following the exanthematous disease, "Oh, let them alone; they will outgrow it." They require just as careful treatment as diphtheria on the part of the physician. A number of years ago, when I was reading a paper upon "Suppurative Disease of the Ear" before one of our medical societies, an honored member of that society remarked that he had had "a great many cases of measles the past few weeks and had not had a case of suppurative disease of the middle ear," and said that specialists were alarmists. It was not ten days after that when I was called to take care of five children in his family. I asked him why he did not let them alone, and suggested that they would outgrow it. He said "That may be all right in other cases, but in one's own family it is different."

DOCTOR G. E. FROTHINGHAM, JR.: I wish to congratulate the doctor on his paper and thank him for bringing up this important subject. The doctor, in his paper, gives six millimeters for the nearest distance from the posterior wall of external auditory canal to the sigmoid fossa. HARTMAN, in his measurements, reports one case of five millimeters and the maximum distance of nineteen millimeters. I show here a specimen in which the distance is only four and one-half millimeters. The floor of the middle cranial fossa has an important relation with the superior mastoid cells which must be constantly borne in mind, lying but a little above the external auditory canal and being separated from it by only a thin lamella of bone. The course of the facial nerve in the canalis facialis turns sharply backward on reaching the inner wall of the tympanum, and, in its course from above the oval window downward and backward to the stylo-mastoid foramen, it lies quite close to the upper and deeper mastoid cells, and is in danger if these are perforated too carelessly or deep. Five-eighths of an inch is the greatest depth that we can go with safety, but I saw a case (a case of sclerosis) operated upon by my father in which he had to go over three-fourths of an inch. The posterior and horizontal semicircular canals have also such relations that, if in penetrating, the direction is too far forward they are liable to be encountered. Size of process varies in different individuals, being larger in those who are muscular, and in males than in females. It is often different in the two sides of the same person. In the child the wall separating the antrum from the lateral sinus is quite thick in comparison with the outer wall and hence meningitis or cerebral abscess is comparatively rare. The mastoid cells with the exception of the antrum are very slightly developed and the antrum is higher up in the child. I have several specimens here which I think will be of interest. This one shows a very high and deep antrum, the floor of which is on a level with the roof of the external auditory canal. Here are several specimens which were drilled on the cadaver according to the directions given by BUCK. The drills entered the fossa at less than five-eighths of an inch. There are many cases in which the symptoms vary so, that it is impossible to diagnose pus, but it is better to operate and not find pus than to wait until too late. With the method of operating with the chisel and dental burr the danger is so much less that we need not hesitate, and I have seen several cases in which no pus was found during the operation make a complete recovery, the patient suffering no pain from the time of the operation.

DOCTOR AMBERG: I feel very much obliged for the discussion. DOCTOR PARKER gave me too much credit. I only followed up some of TRAUTMANN's points. Adding a few words to DOCTOR FROTHINGHAM's interesting remarks, I should like to say that we know that the wall of the horizontal part of the canal for the facial nerve is very thin. HENLE says that there is a spot in the canal near the border of the tympanum which is covered only by fibrous tissue. TRAUTMANN found this dehiscence, mostly, in adults, over the posterior border of the niche of the oval window. The nerve must not necessarily be injured and we may have anyway a facial paralysis. TRAUTMANN observed a case in which pressure by an exudate caused facial paralysis. After the exudate was evacuated the paralysis disappeared. The exudate reappeared, and so did the facial paralysis; but after the permanent removal of the exudate the paralysis ceased to exist. We know that a paralysis can, for example, follow a hemorrhage into the Fallopian canal, or can be caused by perimetritis. DOCTOR SMITH spoke of the course of temperature. Suppose we have a case of la grippe with a certain temperature for a length of time. Suddenly a complication from a part of the ear causes a rise of temperature. After we operate, in order to cure the ear complication, we, necessarily, must expect that the temperature will go down. If the temperature does not go down after some days, then there must be a reason for it. If we can exclude all other sources we are justified in thinking that there is still a focus left which causes the rise of temperature. The diagnosis, for example, of an intracranial complication naturally requires also other diagnostic symptoms. That there are cases which might get well even if there is still a rise of temperature, after the operation, for a longer period, can in my opinion, be easily explained. We know that pus can sometimes disappear. By the operation only part of the cause might have been removed. The body has now to fight a less powerful enemy and the patient might get well. DOCTOR SMITH mentioned a case in my practice this summer which after the operation, did not show the expected course of temperature. The patient recovered. I do not know today whether the course of temperature was caused by an inflammation of the surrounding tissue in some way or other, or by the circumstance that I opened the antrum freely only secondarily. Therefore, this case cannot be quoted as defense for the fact that we can feel easy, even if the rise of temperature keeps up after the operation, unless we know for sure that the cause is of such a character that we do not need to worry. DOCTOR FROTHINGHAM says that the radical operation is sometimes done too easily. There ought to be observed, it is true, certain indications for the radical operation. In general, it is the aim of the surgeon to follow up the disease and to remove, if possible, all diseased parts. Sometimes we cannot speak of such an operation as a typical radical operation. The typical radical operation has the purpose to cure chronic cases by making one hole of the tympanic cavity and the antrum with the intention to have the parts covered with sound epidermis. How useful a broad opening is is easily understood. The control is much easier. SCHWARTZE, for example, reports that he constantly observes a number of cases of cholesteatoma which are protected in this way against a relapse, because the masses can always be easily removed. The patients report in intervals at his clinic, are able to work and are free from disturbances of any kind.

REPORTS OF CASES.

PRACTICE OF THEODORE A. McGRAW, M. D.

AN OPERATION FOR STONE IN THE BLADDER.

DOCTOR BRUCE brought to me from the Saginaw valley, a man sixty-five years of age with rather a peculiar history. He asserted positively that he had not passed his water for nine years without using a catheter. He was unable to pass even a drop by straining. His urine was alkaline and loaded with mucus. He had never passed blood, but suffered constant pain. He had become habituated to large doses of morphine. His pain was located, not at the end of his penis, but on the lower part of the abdomen. I expected to find an enlarged prostate, but his prostate proved upon examination to be unusually small. Passing a sound into the bladder I detected a stone. As the existence of stone does not in itself prevent micturition, I was at a loss as to the cause of his inability to pass water, but thought that it might be due to some growth at the neck of the bladder which acted as a valve. I therefore, on Wednesday last, made a suprapubic section, and removed two stones from the bladder. They were then lying loose and were easily grasped. The inside of the bladder was perfectly smooth and the urethral orifice unobstructed. An examination of the stones, however, threw some light on the nature of the obstruction. The larger of the two was on one side rough and on the other smooth. The smaller had smooth facets on both sides. I think, therefore, that the larger stone was fixed and imbedded in such a way as to overlap the urethral orifice. The upper surface was ground smooth by the play of the smaller calculus. It was probably detached by the silver catheter which I introduced at the time of the operation, for the double purpose of injecting water into the bladder, and of acting as a guide for my incision.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, SEPTEMBER 28, 1899.

THE PRESIDENT, ROBERT H. HONNER, M. D., IN THE CHAIR.
REPORTED BY WALTER J. CREE, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR W. R. HENDERSON read a paper entitled "Croup." (See page 511.)

DOCTOR AMBERG: Permit me to emphasize what has been said concerning adenoids. It is not difficult to understand why an infection in that locality can take place more easily. Instead of a smooth surface, we have one with many niches and pockets, so that microbes can locate with greater facility; besides this, children with adenoids keep their mouths open. Adenoids are not only a danger in the way mentioned tonight, but they likewise cause suppurative disease of the ear. The only way to treat adenoids is to remove them as soon as possible. We owe our knowledge of adenoids especially to **Meyer**, of Copenhagen. The adenoid operation has done a great deal of good. It has also been mentioned that these growths affect the appearance of the patient. They cause a certain stupid expression of the face.

Doctor Kestell: I firmly believe that indiscretion in diet is largely to blame for attacks of croup. Parents should be enlightened by the physician as to the proper wearing apparel for a child. Elimination is the best plan to follow in the treatment of croup. I have successfully treated cases of membranous croup and removed the membrane entire by subjecting the patient to an atmosphere saturated with vapors of oil of eucalyptus and turpentine, with an occasional direct inhalation of subchloride of mercury vaporized from a hot shovel. Massage of the throat with an antiseptic oil is useful. I believe in intubation when properly performed and in suitable cases.

Doctor Bacon: Whether antitoxin is useful in croup is still a mooted question. In regard to intubation or tracheotomy it depends upon the convenience of the operator. It would not be good practice to await the arrival of intubation tubes if the patient were smothering to death.

STATED MEETING, OCTOBER 12, 1899.

The President, GEORGE A. KIRKER, M. D., in the Chair.
Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF TOPICS.

Subject—"What Should be the Character and Scope of Papers Read Before a Medical Society?"

Doctor Carrier: It is entirely an individual opinion as to the character and scope of papers. Members interested in any special line of work read papers, these are published, reprints scattered abroad, and the writer's name thereby brought to notice. There are different kinds of papers presented—the purely scientific and the therapeutic. From the specialist the general practitioner gets the more advanced ideas. If the paper is purely scientific it is not appreciated unless one is working along the same line. There are occasionally presented sanitary papers, semipolitical papers, et cetera, which are interesting. I believe, however, that too many papers on surgical subjects have been read and too little attention paid to therapy. I think also that papers should be read on the subject of materia medica.

Doctor Manton: A great many papers are read that have no value. I believe that every paper read is a help to the writer if not to his audience. The younger members of a society should be encouraged to read papers. The discussion following usually brings out some points of interest. I cannot believe, as the previous speaker has said, that too many papers on surgical subjects are read, as personally I cannot hear enough of them as they are always of interest to me. If the general practitioner thinks that too many papers are presented on special subjects the remedy is in his own hands, as there are enough general practitioners to furnish medical papers.

Doctor Mulheron: This society is representative of the general practitioner I have thought that occasionally papers should be read on the elementary branches of medicine. They would be a sort of review.

Doctor Meddaugh: A great diversity of papers is an advantage. Paper read by the younger members are not expected to be of the best, but the labor of preparing a paper is a great help to any physician, and especially to the young man. I would like to see an occasional paper on some elementary subject as suggested by DOCTOR MULHERON.

DOCTOR HONNER: The society has always tried to bring out the young man. An extremely scientific paper, unless there is something practical about it, does very little good, although we can appreciate the study necessary for its preparation. The object of a medical society is to benefit the whole.

DOCTOR MAIRE: I have as yet never heard a paper read that did not do me some good. All papers cannot be excellent. The writer should be impressed with the importance of his subject. New operations, treatments, et cetera, should not be brought out unless with sufficient study and experience. Elementary papers should be read especially on regional anatomy, physiology, chemistry, et cetera. I have great respect for the old materia medica and too much attention should not be given to the newer remedies at the expense of the old.

DOCTOR WESTGATE: I think that most of the papers read, as well as our books, have too little about the treatment of cases.

DOCTOR WEITZ: Papers should be presented for one of the following reasons: (1) To bring out some new fact either our own or others. (2) Some fact known or neglected. (3) Arousing to action upon some question that is well known. Papers for advertising purposes are entirely out of the question. It is not necessary to produce a long paper. The less ground covered the more points brought out. Papers should be either scientific, practical or ethical, and the former should have a practical side.

DOCTOR KESTELL: I would suggest brevity in the preparation of papers. When I present a paper my own thoughts are brought out and if I am wrong I am willing to be corrected. Papers are the means to bring out practical ideas.

DOCTOR SCHMALZREIDT: For the younger members the elementary paper is the one to read.

DOCTOR TIFFIN: The object of a paper should be to benefit the society if possible. The writer is certainly benefitted by preparing the paper.

EDITORIAL ARTICLES.

NORMAL TEMPERATURE.

NINETY-EIGHT AND FOUR-TENTHS marks, on the Fahrenheit scale, the degree of normal temperature commonly accepted by the profession and is so designated by manufacturers of clinical thermometers. Although the reasons for this assumption are not clear, yet variations from this point, beyond those that are considered to pertain to age and time of day, are unhesitatingly called, by the most of us, abnormal and regarded as due to pathologic processes.

As normal urines vary not from fixed points but between extremes in both quantity and specific gravity, so, analogically, normal temperatures might be expected to range between extremes of high and low without restriction to a definite mean. Having but a single designated point which, for want of definite teaching, might be taken for either extreme or the mean, and, being unaccustomed to designate which mode is used, we must confess clinical thermometry is not as satisfactory as it should be. Particularly is this true since low temperatures have come to be regarded clinically as significant as high ones, and since local conditions of the body may modify thermometric readings more than the general condition would warrant. For these reasons it seems highly desirable that extreme points of normal temperature be established and definite methods of thermometry enforced.

Phillips[*] has made studied observations on this subject and agrees with Davis that the normal mean is about 97.4° Fahrenheit. He regards 97.0° and 98.4° Fahrenheit as the minimum and maximum limits of normal temperature and, for reasons evident, upon slight reflection, considers the armpit the most convenient and best place for determining the temperature of the body. As the mouth is frequently and the rectum and vagina also, though less often, used for this purpose, it is obvious that uniform results are at present impossible. Until the axillary method shall become universally adopted it will be immensely advantageous to specify in medical literature which one is used.

MERCANTILE ASSOCIATION OF MICHIGAN.

The Mercantile Association of Michigan originated in a desire on the part of a number of tradesmen to advance their own general interests, and especially to secure such legislation as would better protect them in the financial part of their business. According to *Trade* it was organized at Lansing last January and prevailed in the passage of two new laws by the last Legislature. Other rightful advantages to be secured prompted the establishment of a more permanent organization to which all reliable persons, firms and corporations interested in the objects of the association are eligible. By the provisions of the constitution there is a state council and a business office, both of which are located at Detroit. Local councils are also provided for, and are located in cities and towns wherever members are obtained. The staff of state officers, as at present constituted, consist of G. W. Hubbard, Flint, president; E. Marks, Detroit, first vicepresident; C. S. Nims, Sand Beach, second vicepresident; F. H. Cozzens, Detroit, secretary; F. F. Hoaglin, Albion, treasurer. These together with H. C. Weber, Detroit, G. Clapperton, Detroit, W. H. Porter, Jackson, C. F. Bock, Battle Creek, T. N. Chilson, Baroda, C. D. Jewett, Howell, J. A. Rapley, Yale, W. K. Thomas, South Frankfort, J. F. Moloney, Cheboygan, A. N. Ward, Mount Pleasant, B. Levine, Republic, C. Wellman, Port Huron, H. C. Minnie, Eaton Rapids, W. W. Olin, Kalamazoo, H. D. Wells, Ypsilanti, H. Klapp, Grand Rapids, and R. H. Horr, Saginaw, constitute the executive committee, one member from each congressional district, whose duty it is to promote the general business of the association as authorized at its meetings. In addition to these Article IV provides for a state legislative committee, a committee on tra relations, a committee on arbitration, and special trade committees compos of the chairmen of like local committees. The scope of the work of the committees may be understood by comparison with the duties of the legisl tive committee, which is to look after the laws and legislation desired and t nomination and election of state legislators and governor, and to generally loo after the political affairs of the state, in such matters that affect the Association members.

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[*] *British Medical Journal*, Number MMXXVI.

This association is designed to promote the interests of the medical profession in so far as they are compatible with the general interests and enlists the coöperation of all physicians engaged in the legitimate practice of medicine. The history of medical legislation in Michigan has taught us some valuable lessons on the weakness of divided efforts and the strength of union, and this invitation to join hands with a larger and representative body of men to obtain rightful advantages should not go unheeded.

ANNOTATIONS.

"WHAT SHALL BE DONE WITH ILLEGAL PRACTITIONERS IN THE STATE?"

THIS question was propounded to the Medical Society of Virginia, at its last recent session, by SECRETARY MARTIN of the Medical Examining Board of that commonwealth, and it is to the point just now in the Wolverine State. We are morally certain that there are hundreds of men and women in this state who today are unlawfully plying their vocations as physicians, and yet we expect that somehow they shall soon be scattered or exterminated. We have a stringent law and an able and energetic Medical Board, but, if we think them able alone to accomplish the desired reform, we shall be greatly disappointed. The experience had in other states—and it is to their credit that most other states in the Union have had an earlier experience than has our own—indicates the need of our realizing at least one thing. As public sentiment and honest officials are necessary to the enforcing of laws pertaining to homicide and theft and persecution, so the enforcing of the new medical practice act, even with the help of the State Board, will depend upon the public and official sympathy with the law and especially upon the united support of the medical fraternity. It will be, as it were, suicidal for any doctor to be indifferent or even lukewarm in his influence upon the executors of this act lest justice be thereby thwarted. Members of our Medical Board have given out informally, but in all sincerity, that they desire the active coöporation of every reputable doctor in their work of ferreting out the quacks and illegal practitioners and causing them to desist from their nefarious practices.

CONTEMPORARY.

THE MEDICAL JOURNAL AND THE ADVERTISER.

[THE SAINT PAUL MEDICAL JOURNAL.]

THE medical journal and the various purveyors to the medical profession are mutually dependent; neither can afford to do without the other. No medical ournal could exist on the income of its subscription list; it must have a certain amount of paid advertising. No manufacturer, whose products are intended for physician's use, can hope for a profitable business unless he makes his wares known to the profession through the medium of the medical journal. The relations, then, between the advertiser and the medical journal should be cordial and close; they should also be businesslike and above all—they should be honest. There are many kinds of medical journals and there are many kinds of advertisers, but for convenience we may divide them both into two classes, the honest and the dishonest. The honest medical journal puts a certain price upon its advertising space and sells this space for this price to any reputable manufacturer or dealer. The honest medical journal divides its space into a certain number of pages of scientific reading matter and a certain number of advertising pages and these two sets of pages are kept absolutely separate, neither being allowed to encroach upon the other; so that the reader knows at a glance when he is reading the honest views of the editor, the collaborator or the original contributor and when he is reading an advertisement. The honest advertiser, if he is at the same time a sensible one, appreciates the value of the advertising space in the honest journal and puts what he has to say, concerning what he has to sell, in the space he has bought and paid for and neither asks for or expects anything further. Granted that the above standard of honesty is correct, it will doubtless be a surprise to many to learn that there are not a dozen honest medical journals published in the United States, today. Any person doubting this statement can find ample confirmation of it in a half hour's persual of the journal files in our library. It would take too long to enumerate the many forms of journalistic dishonesty which are stamped upon the pages of so many of our exchanges, but we will take the time to call attention to a few of the more conspicuous of them. In the first place there is the so-called "Publisher's Department," which contains clippings from other journals of its own class, concerning the wonderful results following the use of some of the articles which are described in the journals' advertising pages. This is, perhaps, the least dishonest (if we can qualify the word) because the nature of the reading matter is so apparent. Next comes the department headed "Clinical and Therapeutic Reports" which are invariably found to consist of the reports of cases which have been cured by the use of some preparation elsewhere advertised. More insidious than the above is the "Reading Notice" which is found here and there throughout the journal in odd spaces and which is usually so expressed that it appears to represent the editor's opinion concerning some special article which will always be found described in full in the advertising pages. Then there is the "Editoral Puff" which is an outspoken editorial expression concerning some advertised article. (This is said to be very expensive.) Lastly there is the "Original Article" which some one has been hired to write and which is speedily sent in the form of reprints to every physician in the country. We were somewhat amazed only a few weeks ago to read an article from the pen of a well known medical teacher and author, in the pages of one of the most widely read New York weekly jou ls extolling the virtues of a certain brand of lithia water. This article has ce appeared in numerous other journals and the reprints will doubtless soon re ch us. We could not help wondering how much the distinguished gentleman as paid for writing the article and how much the journal was paid for publis ng it. We have been approached (and we have the letters on file) by many of he larger advertisers concerning the various schemes mentioned above and we ve before us at the present time an advertising contract recently received from a well known New York chemical company, at the bottom of which appears the following: "Contract to become valid upon publication of an original article on '————————' with report of cases." It is needless to say that this contract, which is similar to many others we have received, has not been, and will not be signed by us. Whether this particular kind of bribery had its origin with the unscrupulous, dishonest medical journal or whether the original sin came from the advertiser, we are not prepared to say; indeed it matters little.

There are manufacturers, we are glad to say, who are intelligent enough to realize that such methods as we have alluded to are not only dishonest, but that they do not pay. As soon as physicians begin to find that they are being "buncoed" by paid-for reading notices and editorial endorsements they not only fight shy of the journal which deceives them but they become suspicious of the articles which are advertised in this sneaking underhanded manner.

The cure for this evil state of things is simple and radical. If every medical man, who has at heart the interest and honor of his profession, would refuse to support dishonest medical journalism, it would soon die. * * * The journal which is owned, edited and published by physicians and whose business management is entirely unconnected with any publisher or manufacturer is the journal which should be supported by the profession, for it is the only journal which can be said to belong to the profession.

MEDICAL NEWS.

A DELIGHTFUL SURPRISE.

Doctor C. B. Burr, of Flint, Michigan, medical director of Oak Grove Hospital for the treatment of nervous and mental diseases, was the recipient of a most agreeable surprise from a gathering of professional friends on the evening of Monday, November 21, the happy occasion being the twenty-first anniversary of his hospital career. The arrangements for the surprise were admirably planned by Doctor William M. Edwards, superintendent of the asylum at Kalamazoo, who made his appearance at Oak Grove the previous evening, and inveigled Doctor Burr into accompanying him on a drive the following afternoon. During their absence the party of friends took possession of the reception rooms of the institution and when they returned the host found that the visitors had been in consultation upon his case, and decided to give him a loving cup of beautiful design. After congratulations had been exchanged this token of esteem was presented in a befitting speech by Doctor E. A. Christian, superintendent of the Eastern Michigan Asylum for the Insane at Pontiac, and graciously acknowledged by the now doubly-surprised recipient. Mrs. Burr had been taken into the confidence of the instigators of the happy affair and had made provision for an elegant course repast, for about thirty guests, which was served in Noyes Hall at 5 o'clock. Thus terminated an event that eminently manifested the professional esteem and social regard in which Doctor Burr is held, a testimony that will be gratifying to friends galore.

MINOR INTELLIGENCE.

Saint Vincent's Hospital, New York, is to be presented with an automobile ambulance.

Alexander the Great, it is believed, in the light of present research, was a sufferer from torticollis.

Doctor Pepper left an estate valued at $670,886.63 which includes a life insurance policy for $53,000.

Virchow recently celebrated his seventy-eighth birthday. He has occupied a professorial chair for fifty years.

Doctor Ira Remsen, Ph. D., of the Johns Hopkins University, has returned from a three months' absence in Europe.

Doctor Weir Mitchell has begun a serial story in the November *Century* entitled "The Autobiography of a Quack."

The Johns Hopkins University exhibit at the Paris exposition will consist of a complete collection of its publications.

At Houghton, Michigan, a project is under way, fostered by the Ladies' Library Club, to found a new up-to-date hospital.

An International Congress of Electricity is to be held in Paris in connection with the Exposition of 1900, from August 18 to 25.

The Antivivisection Society will erect a building at the Paris Exposition to be devoted to illustrating the methods of the vivisectionists.

The Liverpool School of Tropical Medicine has opened its doors to the profession. It has already won distinction by its expedition to Sierra Leone.

The angiotribe is a new instrument designed to apply to large blood-vessels the pressure methods used in controlling hemorrhage from the smaller ones.

Arabs are peculiarly immune from typhoid fever. M. Vincent, Paris, observes that they are not, by one hundredth, as susceptible as French soldiers.

A university for women is to be founded in Moscow through the liberality of Astrokoff, a Russian engineer, who died recently. The university will comprise a mathematical, a scientific and a medical faculty.

The Saint Mary's Hospital, Hancock, Michigan, has been reorganized and a complete corps of trained nurses is in attendance. The sisters controlling the institution intend the erection of a new twenty-five thousand dollar building, in the spring.

A new feature of pathology in art has been taken up by a German, says *The Medical News.* Doctor C. H. Stratz points out some curious symptoms of disease in types represented in works of art. He finds that Botticelli's "Venus," in the Uffizi at Florence, for instance, is suffering from consumption, and should not be riding across the sea in an open shell without clothing.

Schmidt's Jahrbucher quotes from the transactions of the London Obs rical Society as occurring in the practice of W. Duncan, this case: A months' pregnant woman ran a nine inch knitting needle though the navel i the fundus of the uterus. A laparotomy two days later disclosed the needle the fundus, from where it was withdrawn. Abortion took place forty-ei hours later. The woman made an uneventful recovery.

THE remains of Lawson Tait were cremated at Anfield, Lancashire, and the ashes removed in an urn to be deposited, in accordance with his testamentary wishes in Gogarth's Cave, an ancient Welsh burial ground at Llandudno, Wales.

A BRONZE bust on a marble pedestal has been erected as a memorial to Doctor Müller, the victim of the laboratory plague at Vienna last year. Its location is in the eighth court of the general Hospital, near Nothnagel's clinic, in which he was an assistant.

DURING the last eighteen years there died in European Russia: Killed by wild beasts, 1,246 persons; killed by lightning, 9,009; burned, 16,280; poisoned, 18,000; frozen, 22,150; suicide, 36,000; killed by weapons, 51,200; died from alcoholism, 85,200; drowned, 124,000.

ACCORDING to the *North American Review*, beer is drunk to the amount of thirty-six gallons per head in Belgium, thirty-two in Great Britain, twenty-five in Germany, twenty-one in Denmark, twelve in Switzerland, ten in the United States, nine and one-half in Austria-Hungary, nine in Holland, five in France, three and one-half in Norway, two and one-half in Sweden, and one in Russia.

DOCTOR TALBOT, of London, has made the assertion that yellow phosphorus can be used with perfect safety in making matches, provided certain parts of the process are carried on in the open air. The secret lies in making the paste and dipping the matches on the roof of the factory, under little more than an awning to protect from the weather. Among five hundred hands there has not been a case of necrosis in ten years.

ANOTHER legal light, the Attorney General of Illinois, has recently delivered an opinion in which he held that, under the act of 1899 concerning medicine and surgery, Christian Scientists and others may treat the sick and suffering by mental and spiritual means, without the use of any drug or material remedy, without a license from the State Board of Health, and that when a patient dies under such treatment no offense is committed. This opinion was given concerning a case of typhoid fever, in which spiritual methods were substituted for proper medical treatment.

RECENT PUBLICATIONS.

REVIEWS.

MATERIA MEDICA AND THERAPEUTICS.*

THE greater part of this work is taken up with the materia medica, which is systematically considered in two parts, the first treating of the inorganic and the second of the organic materia medica. In our opinion, however, the greatest value in the book lies in the fifteen chapters on general therapeutics, which furnish a most readable digest of and admirable guide in the treatment of disease.

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*By J. Mitchell Bruce, M. D., F. R. C. P., et cetera, Physician and Lecturer on Medicine at Charing Cross Hospital, London. New (sixth) edition, revised and enlarged. In one 12mo volume of 618 pages. Cloth, $1.50, net. Lea Brothers & Company, Philadelphia and New York.

THE ANATOMY OF THE CENTRAL NERVOUS SYSTEM.*

As the author remarks, this is the first complete work in English on the gross and minute anatomy of the central nervous system. It begins with the cell and takes up the spinal cord, the several portions of the brain, the blood-vessels of the brain, cerebral localization, the embryology of the central nervous system, and concludes with the technique of the macroscopic and microscopic examination of the brain and spinal cord. No attempt at pathology is made, although the relation of anatomic facts is so set forth as to be of great service in the consideration of nervous diseases. It is a thoroughly classical work and is eminently worthy of the beautifully executed proofs of the typographic art. The publishers have spared no pains on either illustrations or text.

* By H. C. Gordinier, A. M., M. D., Professor of Physiology and of the Anatomy of the Nervous System in the Albany Medical College; Member of the American Neurological Association. With 48 full-page plates and 213 other illustrations, many of which are printed in colors, a large number being from original sources. Octavo. Price, net, cloth, $6.00; sheep, $7.00. P. Blakiston's Son & Company, 1012 Walnut street, Philadelphia.

PROGRESSIVE MEDICINE.*

The general plan of "Progressive Medicine," a quarterly digest of advances, discoveries and improvements in the medical and surgical sciences, has been previously outlined. Volume III deals with the following topics: Diseases of the Thorax and its Viscera, including the Heart, Lungs and Blood-Vessels; Diseases of the Skin; Diseases of the Nervous System; Obstetrics. The contributors are well known specialists and authors. The same thorough method of review in the narrative style prevails as in the preceding volumes. The illustrations, and indeed the text also, are well executed and contribute not a little to the value of the work.

* Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 440 pages, 11 illustrations. Lea Brothers & Company, Philadelphia and New York.

ACROMEGALY.*

This essay, to which was awarded the Boylston Prize of Harvard University for 1898, is based upon the author's analysis of one hundred and thirty published cases, and includes also the description of a skeleton of an individual, who was regarded as acromegalic and whom he has named "The American Giant." For the exhaustive consideration of this subject and the extensive bibliography of references given, the author's pains will be greatly appreciated. It is a thorough treatise on this affection.

* By Guy Hinsdale, A. M., M. D., Fellow of the College of Physicians o Philadelphia and of the American Academy of Medicine; Member of th American Neurological Association and American Climatological Association Assistant Physician to the Orthopedic Hospital and Infirmary for Nervou Diseases, and to the Presbyterian Hospital in Philadelphia, et cetera. Reprinte from *Medicine*, 1898. William M. Warren, publisher, Detroit.

The Physician and Surgeon

A PROFESSIONAL MEDICAL JOURNAL.

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

CONSERVATISM IN MEDICINE AND SURGERY.*

BY FREDERICK W. ROBBINS, A. M., M. D., DETROIT, MICHIGAN.
ADJUNCT PROFESSOR OF GENITO-URINARY DISEASES IN THE DETROIT COLLEGE OF MEDICINE.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

IT becomes my pleasant duty to address you this evening, and as you have been very lenient with me during the past year, I will not tire your patience longer than necessary; in other words, after saying what is in my mind to be said, you will not be wearied longer. In the first place I desire to thank you, one and all, most heartily, for the honor conferred upon me one year ago. Not having enjoyed the privilege of a long fellowship with the Academy it seemed to me that there were others that should have been preferred before me. But now the year's work has been done, and, even if we would, we have not the power to change the record; but upon our attitude toward that record depends our influences in the future. To be satisfied with what has been is not consistent with progress.

Our attendance has averaged higher, I believe, than that of any previous year, but with a fellowship limited to forty, the program should be of sufficient interest to draw out a still larger number, which in itself would go far toward making the meetings more satisfactory. What we want in the Academy, in my opinion, is a full membership of those who are willing, each one, to put their best work into one paper each year, and if possible attend at least two-thirds of the meetings and enter into discussions of papers read. An average attendance such as this would give, it seems to me, should be expected. Is this amount of work too much to ask of every fellow? Our fellowship is nearly full and it has been suggested that the fellowship committee carefully consider the names of such eligible physicians in the city as may occur to them with a view to approaching them with the suggestion that they make application to be received into the society, if a vacancy exists. We have had many applications during the past year, but few have been chosen and I fully accord with the suggestions above expressed. Men that are members of special national societies, and others of well defined standing in the profession, are not willing sometimes to run the risk of being rejected after making application under our rules, nor are we anxious to fill up our body either from the number who have not won their spurs on the one hand, or from those who, having won their laurels, are not willing to accord us their best work and frequent attendance on the other. By making the fellowship committee responsible in a good measure for keeping vacancies filled with the best our city affords, I feel sure we will increase our interest and power very much, and I commend this suggestion to you for discussion and action at our next meeting.

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*The retiring President's address before the DETROIT ACADEMY OF MEDICINE.

Turning now from this subject, I wish to discuss for a little while one that no doubt has often presented itself in a more or less defined manner to you, namely, conservatism in medicine and surgery. It is a term on the lips of many and one often seen in medical articles. The so-called radical often speaks almost in a tone of pity of the man he calls conservative as if such a man was afraid to do anything new, or not generally done. I fully appreciate that many of the great events of history have been the result of radical action. The early Puritans staked their all when they left home to establish new colonies on the rocky New England shores. Madison and Adams demanded full freedom from England, certainly a radical stand to take. Lord Baltimore would never have left his estate and life of ease and impressed his personality upon the Virginian colony and given his name to one of the largest cities of America had he been conservative. The very idea of the word radical or root suggests that the one to whom the term is given is thorough, going to the root of things. The general who burns the bridges behind him is a radical, and so is the man who leaves his country and attempts the discovery of some new land or the north pole. As we use the term professionally the radical and extremist are twins. The radical often puts an impress on his age which the molding and fitting of the conservative amalgamates with professional thought. The radical on the other hand is a dangerous man for attempting new, untried methods; not seldom does his action result in individual injury and death, but more than this, he may so impress other and perhaps less intelligent minds that they, with zeal not born of judgment, rush in where angels fear to tread, with results that may only be imagined.

The radical does his work presumably thoroughly. He is always a leader. He does not always know where he leads. He never wants to trust anything to the kind protection of nature. He in his enthusiasm has been known to destroy organs, and useful ones too, which might have been saved. Is it not Doctor Thomas G. Morton, of Philadelphia, who has conclusively shown that in railroad and other injuries little danger arises from considerable delay in doing active surgery, and after such delay the surgeon has often only to assi nature in removing useless parts, thus saving many an extremity that a mo impulsive surgeon would have taken off? When bleeding has been checked an the crushed limb been swathed in antiseptic dressings there is no more reas for haste in its removal than is there for removal of a placenta, by pulling the cord, as soon as the child is born. I have often thought that in treatme of injuries many of us have little less patience than an inexperienced accoucheur.

Turning now from consideration of the radical in medicine we gladly class ourselves with the conservatives and would study the qualifications naturally belonging to one bearing that name. The word "conservative" has several allied but somewhat different meanings—for example, conserving, guarding, keeping with care, as both verb and noun; disposition to preserve what is established, to protect from injury or loss; opposed by nature to innovation or change. In accepting the designation, conservative, we accept none of the slurs sometimes carried with it. We see a difference between masterly inactivity and sloth, and while carefully watching for the signs which admonish us to act would not waste ammunition at long range In fulfillment of the phrase, to protect from injury or loss, there is no room for ignorance. More than ever is the most profound knowledge and most careful diagnosis necessary in order that we may be able to protect from injury; not only the knowledge acquired to make a diagnosis but also of the methods of aid, both surgical and medical. The more perfectly the action of drugs under physiological conditions and in sickness is understood the more perfectly can conservative work be done. The simpler prescriptions are made, the better will drug action be understood. There is no room for proprietary remedies in the hands of an honest conservative physician. Their use is often the mark of an indolent man but never of a scientific one. The question, Why? should always be asked and answered before a prescription is handed to a patient. The answer should never be "because in *The Medical Puff* or some other cheap journal the special preparation has been recommended by many doctors." If one attempts to fill his mind with numberless undigested facts there will be no room for logical reasoning and scientific deductions. We all have observed that the simplest prescriptions are written by the most eminent men, and they are, as a rule, all essentially conservative. They do not attempt to use every antiseptic or every coal-tar product thrown on the market by pushing manufacturing houses. They are content to employ the one or two of a class with which they have become familiar and upon whose action they can depend. The fact that a remedy is new does not appeal to them.

Notwithstanding the vast number of remedies for disease placed at the disposal of the profession, is it not true that now as never before the physician entering a sick room feels that the patient does not suffer for want of drugs so long as he has calomel, opium and quinine with him and access to fresh air and a plenty of hot and cold water? Is there any new discovery that equals hot water as a stimulant for a weakened heart? Has the hot water compress lost its power to soothe the fevered brow and aching head? Will not water, hot or cold, properly administered, cure a great majority of our intestinal and stomach troubles, reduce temperature and render wounds and surfaces aseptic? Is it not the consensus of opinion today that the ice-bag is possibly the most useful of all agents in the treatment of pneumonia? At the last meeting of the American Medical Association, DOCTOR H. A. HARE seemed to voice the sentiment of a large number of those present when he said: "If called in consultation in the country to a case of pneumonia I would go with an ice-bag in one hand and a bottle of strychnia in the other, giving the ice-bag first place." In consideration of the secondary place that treatment occupies in medicine is it not the part of a true conservative to train every sense toward more perfect diagnosis, employ every method of precision that is proved of value and become more generally the great diagnostician that our German friends are said to be. Time spent in the study of disease from the standpoint of the clinician, pathologist, and bacteriologist is well spent, but that used in trying to know how to use the many therapeutical preparations in the market is time wasted. It would be better to study the action and best method of employing a few standard drugs.

Conservatism does not mean treating disease after the methods of our fathers or converting ourselves into watchers while mother nature does the work, but as suggested, requires its devotee to be a student of condition and having learned that, to be an actor. To the student of urethral disease "gleet" is a meaningless term today, and no one who uses the term as it was customary to use it ten years ago can expect to treat chronic urethritis with any degree of success. The bougie a boule, microscope, and urethroscope, is the combination which opens to success and one not employing them in this class of cases is not conservative but antiquated, and here let me say that a man may be behind the times in some one line of work but a leader in many other branches of medical science. I might criticise the manner in which a physician attempts to do certain things and yet hold him in great reverence for the skill, I might almost say genius, displayed in doing many other things.

In purely surgical matters there has been of late years very active and sometimes bitter discussion, and while at times radical theories seem to prevail, I think we should look upon all such discussion not as a contention between radicals and conservatives, but between men anxious to get at the truth, and who do work, all of them, in a conservative spirit. Surgical radicals to my mind are those who are ignorant, careless, foolhardy, who attempt capital operations for troubles that do not demand such severe measures, or who operate when they cannot answer the question, Why? To be specific, the first subject that springs to our mind is that of appendicitis, and the second probably that of operations on the uterus and its appendages. To me the question is not primarily between Murphy, Deaver, Morris, Niles, Walker, and Carstens, *et al.*, on the one hand and Keen, Senn, McBurney, Abbe, McGraw, *et al.*, on the other, but between the internal medicine man who treats cases of appendicitis without the coöperation of the surgeon and the one who considers this a surgical disease. The first to my mind is a dangerous radical. In my experience, not as large as that of many others by any means, every one of my deaths have been in those cases wherein the general practitioner has waited until late in the disease before calling the surgeon. In one case there was an abscess filling about one-half of the abdomen, and though nearly dead I operated, feeling it my duty to give the patient his only possible chance. A second case was that of a young man who had had a half dozen attack within a year and in whose abdomen there was very little free pus but larg coils of paralyzed intestines overdistended with gas and glued together in a directions with lymph. The last case was that of a woman in the countr The hard adhesions around the appendix were very firm in character. The was no tumor, but the abdominal cavity was filled with pus in every por tion. Were all those deaths necessary? By no means. In the first cas the abscess cavity was walled off and early opening and drainage would probably have saved the patient. The second case would have been a splendid one for an interval and therefore a safe operation. In the last case the physicians had been unable to make the diagnosis, and how difficult a matter that would have been at an earlier date I am unable to state, but in justice to the attending physician I must say that there are cases wherein the diagnosis is not at all easy and wherein an inexperienced man should have surgical coöperation at once. Only immediate operation, often, will save those cases of appendicitis wherein the diagnosis is difficult. In all other operated cases recovery and perfect health has followed. You may ask about those cases occurring in my private practice and not operated on. Without going into detail I may say that I have had from twelve to fifteen such cases, all of whom recovered from the attack and are well today. In one case, that of a lady, there was a second attack, not as severe as the first, but no new attack since the second about three years ago. Another, also a lady, I saw in the second attack, the first evidently not having been diagnosed. She has had no renewal. In all the other cases, so far as I know, there has been no recurrence.

Among surgeons, such as those mentioned, there is in the minds of all the spirit of conservatism. The conservation of life and power is their aim, and so long as this is accomplished it matters not what becomes of the appendix. If all foreskins and all appendices were absent mankind would be not one whit the worse off. If this be so, how shall we consider the surgeon who would advise operation and removal of every appendix within twenty-four hours after the onset of disease. In the first place it must be understood that only in a small proportion of cases is the surgeon called to them so early, and after that time the conditions are such that a different rule of action must be followed. It was my good fortune to be present and listen to the discussion on the paper read at Denver by DOCTOR NILES, of Salt Lake City, and also that following the paper of DOCTOR MORRIS, read at Columbus. DOCTOR NILES, in his strong paper, argued for immediate operation in all cases of appendicitis, and DOCTOR KEEN protested against the operative risk being taken in all cases. DOCTOR NILES took the ground that in this way the death rate from appendicitis can be reduced to two per cent. DOCTOR KEEN challenged any surgeon present to show such a small death rate even from simple incision of the abdomen. DOCTOR RANSOHOFF and others followed in the line of DOCTOR KEEN. Then DOCTOR MURPHY and others supported DOCTOR NILES' position so powerfully that the feeling obtained that those counseling immediate operation had prevailed. No one, however, accepted PROFESSOR KEEN'S challenge. Practically the same discussion was continued when at Columbus DOCTOR MORRIS took DOCTOR KEEN to task for charging a mortality of two per cent. to simple laparotomy, and stated that he had done one hundred and forty consecutive appendectomies without a death. Several others showed a list of upward of one hundred operations without a death. DOCTOR KEEN was obliged finally to admit that his protest against the dictum "make your diagnosis, then operate," was made because he felt that such a doctrine coming with authority from the American Medical Association would be followed by numerous operations at the hands of many operators under conditions good, bad and indifferent. Under such circumstances the death rate would be high. He felt, however, that in his own practice he operated under just about the same conditions as did Doctor Deaver, and that at the bedside there would be little difference of opinion. Doctor McBurney advises operation on all cases of appendicitis but under the following rules: He would not operate in the stage of acute inflammation unless the case urgently demanded it. He advises watching the patient at short intervals of from four to six hours and if there is gradual improvement after the second or third observation he would not operate immediately. If the patient's symptoms become gradually more grave he operates at once. Not having operated immediately he advises an operation some two weeks later and operates if the patient will consent, and here, of course, is the weakness of this system, for few patients will place themselves in the hands of the surgeon at this stage of the disease. Here let me report a case of my own and briefly state my position upon this question.

Miss M., aged twenty-three years, had an attack one year ago, and was treated by application of ice-bags. Patient was taken sick with pain over McBurney's point at 5 o'clock in the morning, was seen by Doctor McKean, and in the afternoon went to Saint Mary's Hospital, where I saw her at 5 o'clock in the afternoon. Temperature 99.2° and pulse 65. There was scarcely any muscular tension but pain was severe. She was prepared for operation immediately and a two-inch intramuscular incision made. The appendix felt firm, swollen to its full capacity and bent upon itself, its point being thrust through a hole in the meso-appendix, from which I was able to relieve it with some difficulty. No adhesions were present. A purse-string suture was introduced at the base of the appendix and the organ removed. Two small additional catgut sutures were introduced and the wound closed. Healing was complete and patient discharged in ten days, well. On removal of the appendix there was no leaking from its lumen, so completely was the opening closed, but on incision foul smelling, purulent matter spurted out from the appendix which was diseased its entire length. Here was a case operated on after twelve hours with most beautiful results. Delay for a few hours would have resulted in a ruptured appendix, with the patient in a critical condition. This picture will long present itself to my mind, a powerful argument for immediate operation.

Pain, severe, at McBurney's point, especially if constant or intermittent, is probably due either to an abscess or a foreign body within the appendix with no opportunity to escape into the colon. When, then, pain is severe, the rule should be, operate at once. Temperature or pulse in such cases should not be considered. I well remember one of my first cases, that of a young lady who for, I think, two weeks had most severe pain in the region of the appendix before breakfast each morning. She could be relieved by opiates and remained comfortable until the next morning at the same time. Operation revealed a long appendix, apparently not inflamed. There were no adhesions, but withi the organ was a large enterolith which could not be expelled. Patient made quick recovery, but a few years later her sister was attacked with appendicit and died, because a physician in the neighborhood was sent for who ha no conception of his duty in such cases. In cases wherein the pain is no severe, the patient being comfortably sick, I have not come to the point whe I would advise operation in every case, but would follow Doctor McBurne and watch a case with great care, being prepared to operate at any moment. If the attack is not a primary one and the surroundings satisfactory, I can see no advantage to be gained by waiting. In cases wherein a tumor is plainly evident, showing that the disease has extended beyond the appendix and nature has sent out a wall of protective lymph, it is safe to wait, and in the hands of most surgeons if an abscess forms simply opening and draining will be all that is necessary to produce a cure. When the tumor gradually disappears, nature having taken care of the exudate with or without destruction of the appendix, little tendency to recurrence remains. DOCTOR ABBE told me that in his experience it was extremely rare to see a recurring attack of appendicitis after draining an appendicial abscess. If in such cases the appendix can be easily gotten at and removed it should be done, but I believe the weight of evidence at present is against the plan of tearing down the abscess wall and separating intestinal coils in the attempt to carry out an ideal operation. In all work, both medical and surgical, the power exerted by nature in absorbing inflammatory exudate must not be lost sight of, and in this kind of work nature will assist the surgeon in doing good, providing he restrains himself so as to do no harm. When it is reasonably certain that there are adjoining pus pockets, they must be searched for and drained.

In another line of surgical work, namely, that upon the pelvic organs, I wish to call attention to the fact that we do not perfectly know how disease is produced or nature's methods of cure. The conservative would not remove all the organs of the female pelvis just because his technique is such that he can do much without destroying life. I think DOCTOR HUBER pointed out only last week that the pains often thought to arise from ovarian troubles in many instances are not relieved by total ablation but that the pelvic and abdominal viscera are rich in sensory nerve endings. It has seemed to me quite within the range of possibility that a diagnosis of ovarian degeneration may be made and the organs be removed by surgeons who do not know a pathological condition from a normal one. How many operators in Michigan know how a normal ovary should look at the different periods of life? Do all ovaries look alike? Are there not many conditions that normally affect their appearance, as age, pregnancy, anemia, full habit, et cetera? Do all cystic ovaries cause pain? Is there one in twenty that would ever form well developed ovarian tumors? Are there not a very large number of ovaries, enlarged ovaries, removed that by treatment or no treatment will finally recover their normal or nearly their normal condition? Do we not all know many women who, after inflammatory conditions, have lost ovaries and tubes and later complain of pains not known before and which are more unbearable than those with which she suffered? If you desire to look for many Christian Science cures ask for those women who have been told that they must have their ovaries removed but have preferred to accept the diagnosis that they really had no pain. There are many such cases and they should make a conservative of the aspiring operator. We have seen many cases of acute pelvic peritonitis with inflammatory masses so hard and large that the pelvis seemed a dumping ground for croquet balls, and as we have cared for these cases for a few weeks, have seen the patient grow stronger, the inflammatory masses, whether due to infection after miscarriage or gonorrhea, gradually becoming smaller and softer until they could be no longer encountered. Our enthusiastic operators make us believe that these individuals will suffer relapse and be in great danger of their lives unless operated upon; but do they? I am sure that I am not alone in having seen not one or two but many such cases wherein recovery has been not only immediate but permanent. In these, as in cases of appendicitis with inflammatory exudate of large size, nature will do wonders in its attempt to remove it. Portions she will discharge through the intestine or tubes and in her quiet, beneficent way absorb what is left of disease. I desire, in the class of cases just discussed, pelvic cases, to enter my plea for conservatism. Not the conservatism of the man who will never operate; not the conservatism of the man who, studying his casebook or more likely his imagination, will affirm not only that he never operates but that operation is unnecessary. We all know of many invalids made permanently well by operation. We all know that diagnosis can often be made so clearly that operation is undoubtedly to be advised and done, but in this age of competition and anxiety to accomplish something quickly we must not lose sight of the fact that we have in nature a valuable assistant in restoring health; nor of the other fact that the true conservative, intelligent, self-reliant observant is never backward in conserving health and life by active and radical means.

MEMOIRS.

WHEN AND HOW SHALL WE OPERATE FOR UTERINE FIBROIDS.*

By W. P. MANTON, M. D., Detroit, Michigan.
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A PAPER on so familiar a subject as uterine fibroids must necessarily present much that is elementary, and, to be of value, discuss the condition from a more or less personal point of view. The rearranging of old facts and the rehabilitating of well known truths, however, is not always unprofitable, and frequently serves to illuminate questions hitherto hazy or obscure.

To the laity, and unfortunately to many practitioners as well, the uterine fibroid is a practically harmless growth which gives rise to few symptoms beyond occasional inconvenience from pressure or weight when large, or in some instances to hemorrhage which may more or less influence the general well being of the individual. However great the suffering, the advent of the climacteric is looked upon as the positive solution of the problem, in restored health.

To those of us concerned in the almost daily treatment of these neoplasms. the picture presented is entirely different, and we are inclined to look upon th fibroid through the eyes of the older observers and consider it a malignan development; malignant not in the ordinary meaning of the term, but malignant in that its influence on the economy may be pernicious and far reachin too often proceeding to a fatal termination. While unlike carcinoma it rarel leads to systemic infection and death, the uterine fibroid is none the less mischievous and insidious in its workings on the general organism; and the common failure to recognize these evil tendencies in a so-called benignant growth adds largely to its fatality records.

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* Read before the WASHTENAW COUNTY (Ann Arbor) MEDICAL SOCIETY.

It is no argument against the statements just made that, while from ten to forty per cent. of all women who live to the age of fifty are afflicted with these tumors in some stage of development, comparatively few ever experience annoyance from their presence. It is the uncertainty as to the ultimate outcome of these growths that makes them dangerous at every stage of their existence; for no man is in a position to assure his patient that the menopause will bring relief, or that long before the menstrual cycle is brought to close, life-endangering conditions may not arise when the helping hand will be extended too late. We have all of us seen many instances where the change of life has only served to stimulate growth and degenerative changes in these tumors, and where expectant treatment has resulted disastrously to the patient.

Many fibroids exist without the knowledge of their host, or are accidentally discovered by the physician when examining for other purposes; these non-symptom-producing tumors are not under discussion, although it must not be forgotten that the disturbances which a fibroid may create are not always confined to the pelvis or abdomen, but that reflex manifestations may be the only indication of their presence. We can, therefore, at this time only consider what shall be done when the tumor is brought to us for the relief of symptoms. Of these symptoms the most common are pain, hemorrhage, and the discomforts arising from weight and pressure. In general, it may be stated that the size of a fibroid has little to do with the production of any of these manifestations, its location and mode of growth being essentially responsible for their evolution. Many large tumors exist without giving rise to the slightest trouble in these respects, while an apparently insignificant growth may lead to protracted torture worse than death. As the result of pain from small fibroids, due to pressure upon the sacral or lumbar plexus, to overdistension of the tumor capsule, to stretching of the overlying peritoneum or rubbing of the latter by tumors situated low down, especially in the vicinity of Douglas' cul-de-sac, or the continued squeezing of an ovary, I have seen patients reduced to the most pitiable condition physically. By hemorrhage, whether the blood loss is in the form of a stillicidium or of menorrhagia or metrorrhagia, the vital powers are severely taxed, and sooner or later, if the drain is not stopped, the victim is liable to reach a state of anemia which is beyond repair.

The most profound and dangerous action of the combined exhibitions, however, is exerted upon the heart, and it is to the disregarding of this fact that the mortality following many, if not the most, cases of operated fibroids must be attributed. I am quite sure that during the past fifteen years I have lost at least three cases from this cause, cases which possibly might have been saved had I realized the importance of the cardiac complication. Blood depletion interferes with the nutrition of the heart muscle, and this is aided by the nervous influence propagated by the growing neoplasm. The result is a brown atrophy of the cardiac muscle with occasional valvular complication. The heart thus crippled is unable to withstand the additional strain imposed upon it by the operation, together with, perhaps, the immediate blood loss, and the patient sinks and dies from what we are too often pleased to term "shock." The sometimes serious action of fibroids upon the kidneys must also not be lost sight of, and the state of the renal organs should always be considered in our management of these cases.

In the light of our present knowledge of these conditions, some of which I have briefly sketched in the foregoing remarks, when and how are we to meet the difficulties presented in the way of treatment, when shall we operate and how, and when shall we stay our hands?

From my own experience in dealing with this class of growths, I would formulate something like the following for guidance: If the tumor is small and without subjective or objective symptoms, it had best be left alone until such arise, but in all cases of symptom-producing fibroids treatment should be at once inaugurated. I shall say nothing in regard to the medicinal (ergot) or electrical treatment of these growths, for while I have had experience along both lines, I believe that anything short of eradication of the tumor is but temporizing and futile. A fibroid which has developed to a size sufficient to produce any or all of the symptoms which I have enumerated is no longer a thing to be dallied with or trimmed, and with exceptions, the sooner it is removed from the patient's body the better. If, as the result of hemorrhage, et cetera, the heart has become affected, or from other cause the immediate operation is interdicted, cardiac and general tonics and the most nourishing and assimilable food should be given until such a time as the patient is able to bear an anesthetic, when the uterus should be thoroughly curetted.[1] This will, in the majority of cases, put a temporary stop to the bleeding if this is present, and act as a stimulant to the uterus in such instances where hemorrhage is not a symptom, while it permits the upbuilding of the system and a restocking with blood cells. When this has been accomplished the complete operation may be undertaken with good assurance of successful issue.

The operative treatment of fibroids should depend somewhat on their size and location, and the age and social position of the patient. In women during the early years of active sexual life at least, it is desirable to preserve as much of the pelvic viscera as possible, and active conservatism where admissible should be our invariable choice in the selection of surgical methods; in the elderly married woman or the spinster it may be desirable to remove both uterus and adnexa.

The tendency of subserous and submucous growths to become pedunculated renders the conservative operation generally easy of accomplishment, while with sessile tumors of this type the question as to procedure must remain elective with the operator. It has always seemed to me, however, that conservation is a higher art of surgery than annihilation, and that it is better to retain a small and healthy part than to sacrifice the whole.

The surgical removal of the submucous fibroid through the natural channels is only possible in the presence of a sufficiently expanded vagina and dilated cervical canal to permit of ready access to the womb cavity. The carrying ou of this procedure (morcellation) demands considerable knowledge of th structures involved and great nicety of touch, for it is easy to take too muc and include the uterine substance, or go too far and penetrate the peritone cavity, both of which accidents might lead to undesirable consequences.

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[1] This is not always possible on account of the length and tortuousness of the canal.

In the pedunculated form of the subserous growth the removal of the tumor usually presents little difficulty, and it is only in those instances where the tumor is well imbedded in the uterine wall while projecting outward that doubt arises as to course. It has been laid down and is an accepted rule at the present time, that when a fibroid uterus has reached the size of a six months' pregnancy the line of demarcation for myomectomy has been reached. Operators of small experience, however, will find it to their advantage to restrict their manipulations to growths of a much smaller size than this, for the hemorrhage during the enucleation of large fibroids is sometimes quite alarming, while small growths can usually be shelled out of their beds with little danger.

In the case of small interstitial tumors the uterus may be split even to the cavity without particular danger of hemorrhage or subsequent infection. I have done this in many instances, and so far have observed no untoward results.

The criticism that conservatism in the treatment of fibroids in the manner indicated is likely to prove futile in that other tumors may develop and render a second operation necessary, is, it seems to me, hardly pertinent. Even should a tumor develop subsequently, it is far better to take the risk of another operation than to deprive the woman of the possible chances of maternity. While it is perhaps impossible to determine the presence in the uterine structure of a fibroid of millet size, one who is accustomed to the feel of the tissues can very readily detect a growth the size of a small pea, and I have several times removed such when deeply embedded in the substance of the womb. Such a proceeding, as I have said, at least leaves the patient with a whole organ and capable of further childbearing.

When myomectomy is impracticable, either on account of the size of the growth or the involvement of the entire uterus, total ablation is the operation demanded. The point often raised as to which of the two routes, vaginal or abdominal, is preferable, should, I believe, be decided by the size of the tumor, its position and the physical condition of the patient. A fibroid uterus which can be readily brought through the vaginal canal, sufficient space being present for the secure ligation or clamping of the vessels should, as a rule, be removed through this channel. An exception to this would be in the case of tumors springing from the sides of the uterus and growing into the broad ligaments. These growths often dip deep down into the pelvis and not infrequently work their way between the bladder and rectum in such a manner that their removal per vaginam would prove not only difficult but exceedingly hazardous.

Large growths should be removed through the abdominal incision, but whether the cervix shall be left, where this is possible, or taken must remain a matter of choice. My own belief is that the cervix is an important structure in the vaginal vault, and that with it *in situ* there is less liability of shortening of that canal subsequently.

The old and mooted questions as to the extraperitoneal treatment of the stump or the sinking of the pedicle have, it would seem, been permanently settled and require no further discussion. If the method first advocated by GOFFE and subsequently practiced by BAER is adopted, we have both an intra-abdominal disposal of the cervical plug, and an extraperitoneal stump. Either method is legitimate and successful, and the choice of application must depend upon the nature of the growth and the operator's individual experience and technical dexterity. The fixation of the stump in the lower angle of the wound as advocated by KOEBELE, BANTOCK, THORNTON and others is, as a rule, more quickly accomplished, but convalescence is protracted and suppuration of the tissues common. In the intrapelvic method if the cervix is properly prepared and the techinque aseptic, there is little likelihood of subsequent suppuration and infection, and the procedure unquestionably more nearly approaches the ideal operation.

In closing these somewhat desultory remarks, I desire to emphasize the fact that fibroid tumors of the uterus are not always the harmless and benign neoplasms generally supposed, and that the physician who looks upon them with indifference and delays active measures for "a little more slumber and sleep and folding of the hands," fails in his duty to his patient and in the highest fulfillment of his professional obligation.

32 ADAMS AVENUE WEST.

SYMPATHETIC OPHTHALMIA.*

BY M. R. BEAUDOIN-BENNETT, M. D., JACKSON, MICHIGAN.

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THIS undoubtedly is an old and worn out subject, and I do not think I can throw any new light on it, yet I shall briefly go over theories regarding this condition, citing four cases that to my mind are illustrative of these theories, and suming up with what my idea is of the cases that call for operative interference. It is not to be considered in a paper of this kind that I discuss the pathological conditions which occasion this affection. I might state, though, that all wounds of the ciliary region are well known to be extremely dangerous, together with foreign bodies in the globe.

Sympathy may be divided into two classes or types. The irritative, producing photophobia, lacrymation and apparent presbyopia, and the inflammatory, wherein we have serous iritis, cyclitis and neuroretinitis. We also have a plastic form with plastic iritis, synechia, hypopyon, shallow anterior chamber, et cetera. About fifty years or more ago, MACKENZIE attributed sympathetic ophthalmia to one of three causes.

(1) That the disease could pass from one eye to the other by way of the blood-vessels connecting in the brain.

(2) By way of the ciliary nerves.

(3) From the retina through the optic nerve to the chiasm to the opposite eye by way of the interretinal fibers.

Later HEINRICH MÜLLER, in 1881, evolved the ciliary nerve theory, it being a reflex irritation. Later, inflammation due to microbic origin, had SNELLEN for its supporter. Later still, the modified ciliary nerve theory of SCHMIDT-RIMPLER was advanced, which attributed the inflammation due to disturbance of nutrition and circulation produced by irritation of the ciliary nerves in the injured eye, where the longer the changes exist, the more extensive they be, the more fertile the soil for action whether chemical or microbic.

According to DEUTSCHMANN, the inflammation is a progressive process in the continuity of the tissue of one eye to the other by way of the optic nerve apparatus, and is of bacterial origin; hence, a migratory ophthalmia. But this theory has not been confirmed. The migratory theory is still an hypothesis, just as is the ciliary nerve theory. But those who have failed to confirm DEUTSCHMANN's theory are unwilling to deny the parasitic origin of the disease, but believe that neither the microorganism (or its products) nor the route of transmission have been discovered. DEUTSCHMANN found staphylococcus in eyes, which had produced sympathetic ophthalmia in fellow eyes, and cultures produced the same result in rabbits' eyes. LIMBERG and LEVY experimented on forty-two animals with no results; that is, they could not produce sympathetic ophthalmia with the material from injured eyes, which had caused sympathetic affection. Sympathetic ophthalmia in man is never attended by a general infection; hence, experimentally the disease must be produced in the fellow eye without causing a general infection which was not the case in DEUTSCHMANN's experiments. GREFF, in fourteen neurectomies of injured eyes, found no organisms in either of the optic nerves or sheaths. PFLUGER had the same results, while DEUTSCHMANN, in all his experiments, had positive results, but not without general infection.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

Allowing the theory of migratory microorganism to be considered for one moment, then, there should be a specific microorganism, without which the disease could not be produced. It should be found in this disease and no other; it should be cultivated and produce a like line of symptoms from the culture. The bacillary theory should apply to pamophthalmitis, which we know does not tend to sympathetic inflammation, which is an exception to the theory. We have sympathetic inflammation after enucleation, which would tend to disprove the ciliary nerve theory. The fact that an eye is removed before there is any evidence of disease in the other does not guarantee immunity from infection later on.

I will cite four cases illustrative of this disease:

Case I.—A young man, aged nineteen years, presented himself for treatment, June 3. Seven hours previous to being seen, patient was struck in the left eye by a small piece of steel, which flew from a bar on which he was working. The ocular and palpebral conjunctivæ were reddened and inflamed. There was a small wound of the lower, inner quadrant of cornea close to the sclero-corneal junction. The iris seemed adherent to wound, with beginning opacity of the lens. Slight pain. O. D. 20–15. O. S. 4–200. Atropine and hot water were applied.

June 3: Hypopyon developed; haziness of cornea.

June 8: No improvement. Anterior chamber filled with pus. An incision made in lower portion of the cornea and iris excised. Gruenings's magnet was introduced with the satisfactory result of withdrawing a small piece of steel. After cleansing the anterior chamber the eye was bandaged.

June 10: Dressings removed; eye in satisfactory condition; no particular reaction.

June 21: Anterior chamber more clear; some exudation; general appearance encouraging.

July 13: Patient free from pain; inflammation subsiding; no evidence of sympathetic inflammation. Patient, being warned to return on slightest irritation, was discharged.

July 23: Patient returned with marked evidence of sympathetic inflammation in right eye. There was photophobia accompanied by plastic iritis with adhesions; pupil filled with exudation; iris discolored. The left eye was immediately enucleated.

July 25: The right eye improved; very little reaction; pupil widely dilated.

August 2: Condition of eye worse—much inflamed. I applied leeches to temple and prescribed inunctions of twenty per cent. oleate of mercury, quinine and tonics.

August 9: Iodide of potash and atropine was prescribed. The redness is subsiding and there is general improvement.

August 17: Discharged. Vision 2–300.

November 16: Pupil filled with exudation. Vision 6–200:—20–200 w–3.50 D. S.

There is a posterior vitreous lymph stream and also an anterior stream flowing forward around the lens; the aqueous leaves the anterior chamber at its peripheric angle. A current flows from the brain to the eyeball in the subvaginal space (GIFFORD). (A very plausible explanation of the migratory theory in this case). Had I been able, when I extracted the piece of steel, to have an examination of the contents of the anterior chamber, I might have found the specific germ, and immediately enucleated the eye, thereby saving the other. Here the infection may have travelled through the nerve sheaths along the vessels affecting the vitreous, causing uveitis.

Case II.—On September 21, I was called to see a man aged forty-six years. Nineteen years ago, while working with hammer and chisel on a piece of steel, a piece flew off and struck him in the left eye. Patient stated that sight was immediately lost, so much so that he could only count fingers. The eye was very hot and painful, but on application of leeches the pain subsided. He went to the late DOCTOR AGNEW two weeks later, but as the eye was looking so well it was decided to await developments. Patient was under observation for two months and then passed out of sight. Last week his attention was called to the redness of the left eye by a friend who remarked that there was something jumping in his eye.

On examination, I found a dislocation of the lens and also what appeared to be a fine shred extending from the center of the cornea through the anterior chamber. The iris was dull in color and not responsive to light, atropine or eserine. The lens was supposed to be transparent as no opacity was observable through the pupil, but vision was improved by a strong convex lens. As the right eye showed signs of uveitis, patient was advised to have the left one enucleated, which was done. Vision was O. D. 20–20, O. S. fingers at one foot and improved with + 10 D. S. Upon examination of the globe, the lens was found hanging by a few shreds of the zonula ciliaris drawing upon the ciliary process. The lens was opaque but had a hole through its center so that it resembled the shape of an ordinary rubber ring cushion, which accounted for the patient seeing better with a + D. S. lens. A piece of steel, one-eighth of an inch long was found encapsulated in the upper inner portion of the retina and choroid, and was not the ultimate cause of the sympathetic trouble. The patient made a speedy recovery and was discharged September 28, with a vision of 20–15.

Judging from the fact that this patient had carried a piece of steel in his eye for nineteen years, and had not been inconvenienced thereby, save for the loss of vision, either the steel entered as an aseptic foreign body or the original inflammation was so violent that the posterior lymph channels were closed so quickly that the sympathetic process was stopped at the onset. No irritation occurred in the case until undue traction was made on the zonula, exciting the ciliary nerves, the irritation of which caused a reflex disturbance, affecting the blood circulation and nutrition of the other eye; hence, modified ciliary nerve theory.

Case III.—A young man, aged seventeen years, came under my care suffering from a perforating wound of the cornea of the left eye, an injury caused by a flying nail. Operation, extraction of soft cataract and iridectomy. The patient had been driving a nail in the ceiling, when a slanting stroke of the hammer caused the nail to glance, striking the left eye. Immediately the eye became very painful, with entire loss of vision.

On examination, I found a perforating wound of the cornea just below the center, the anterior chamber empty, lens opaque and iris caught in the wound.

Treatment consisted of the application of a solution of atropine and cocaine *ter in die*, and iced cloths at intervals if patient complains of pain.

August 8: Pupil dilated; general appearance of the eye better. I operated under cocaine, performing an iridectomy below with extraction of lens. Most of the lens matter was removed, after which the eye was bandaged.

August 12: The iris is well dilated; wound gaping; incarceration of soft lens matter.

August 20: The wound is less ragged; opaque lens matter absorbed; cornea less bulging; less chemosis of conjunctiva.

August 30: Continued improvement. Patient discharged.

October 16: Patient seen again. Anterior chamber entered with keratome. Some soft lens matter and exudation was expressed, the eye cleaned and bandaged and patient put to bed.

November 3: Some exudation on lens capsule; circumcorneal injection; anterior synchia; pupil fixed.

November 17: Eye more conjested. Tention + 1, very painful and sensitive. No improvement occurring, I advised enucleation, which was agreed to and I operated November 20. O. D. 20–20.

November 26: Patient discharged.

December 20: O. D. 20–50. Patient began to notice for a week that he could not see well. Five days ago he began to have pain in the eye. It became red and inflamed, but he failed to report as I requested. The iris was cloudy, tension minus. Treatment consisted of applications of atropine every two hours, oleate of mercury twenty per cent. and hot water.

February 16: Since the last date patient has received all the known remedies for the general uveitis. He has gotten better and worse until today his vision is 13-200 normal tension, with a vitreous full of floating bodies.

February 21: The eye is very irritable; vision, 5–200; vitreous full of floating bodies; tension normal. Put patient on atropine and hot water.

February 27: Injections of pilocarpine produced copius sweatings. Patient growing weaker each day and vision failing.

March 1: Mercury and pilocarpine continued, also atropine and hot water.

March 12: Anterior chamber very shallow; tenderness of globe; engorgement of deep vessels; vision 2–200.

April 2: Patient's general condition seems improved. He says that he sees better, and there is less ciliary engorgement and photophobia.

April 6: Vision 8–100. Treatment consists of cleansing with boric acid and doses of quinine *ter in die*. Patient's urine is the color of deep amber; specific gravity, 1030. Acid reaction; no sugar, no albumin.

April 25: Vision 14–200. Patient discharged.

April 28: Patient came to office today. He sees better. O. D. 16–200: 20–500 w — 6.00 D. S. $\overset{\frown}{\smile}$ — 1. 50 D. C. 180 degrees.

This may have been a case of uveal information of microbic origin and exhibits the tendency, which so many cases manifest, of repeated relapses. It may be due to a not unfrequent gathering of the microorganisms into colonies where they alone produce mischief, as individually they are quite inert, which may explain the freedom from sympathetic trouble in many eyes after serious injury. After repeated attacks the inflammation exhausted itself, leaving a fair vision due to constant care and treatment.

Case IV.—A girl, aged eleven years. On October 7 she was shot in the right eye with an air gun. She was immediately brought to Albany Hospital, where she remained six weeks, at the end of which time the eye was enucleated. On the day previous to the enucleation, the left eye became affected, was sensitive, injected and painful. After one week patient was discharged and went home, where she was kept in a dark room for six weeks. She was afterwards brought to the Manhatten Eye and Ear Hospital, New York City, where she was treated for chronic conjunctivitis and circumcorneal injection. Her pupil was dilated and unresponsive to light; tension normal.

September 17: She continued to improve under proper treatment until now she has a vision of 20–30 w — 1.50 D. S. $\overset{\frown}{\smile}$ — .55 D. C. 180 degrees.

This case is cited to show the change in refraction after sympathetic inflammation. I have often noticed that eyes subjected to sympathetic ophthalmia become myopic. Such is the fact in three of these four cases. Is this due to a change in the anteroposterior axis of the eyes? I myself think not, nor do I think that it is due to any change in the cornea, for even in a myopic astigmatism, the ophthalmometer showed no signs of curvature in any of these cases; hence, we must look to the lens and ciliary muscle, the fibers of which draw upon the zonula and release the crystaline from its normal tension and by its elasticity produces an anterior curvature due to a pathological condition of the ciliary nerves, an element in favor of the ciliary nerve theory. I have never seen a case of sympathetic ophthalmia caused by atrophied eyes with ossification of the choroid where the affection does not occur until the bony plate extends into the ciliary region, and I am inclined to think that if sympathetic ophthalmia always comes from one and the same origin, that origin is due to the reflex irritation of the ciliary nerves. Facts do not substantiate the migratory germ theory.

To conclude, I would enucleate—

(1) An eye that has a wound so situated as to involve the ciliary region and so extensive as to destroy sight immediately, or to make its ultimate destruction probably by inflammation of the iris and ciliary body reasonably certain.

(2) An eye with a wound in this region already complicated with severe inflammation of the iris or ciliary body, even if sight is not entirely destroyed.

(3) An eye which contains a foreign body which judicial efforts have failed to extract, in which severe iritis is present, even if sight be not destroyed.

(4) An eye the vision of which has been destroyed by plastic iridocyclitis, or that has atropied or shrunken, provided there is tenderness on pressure in the ciliary region.

(5) An eye whose sight has been destroyed, even though sympathetic inflammation has begun in the fellow eye, in the hope of removing the cause and getting a better result with the sympathizing eye.

(6) An eye with a wound of the cornea, iris, and ciliary region either with or without injury to the lens.

(7) An eye primarily lost by injury, or in the state of atrophy associated with signs of sympathetic inflammation in the fellow eye.

In the treatment of the sympathizing eye operative interference has no place. Some have advised iridectomy or sclerotomy, but in my opinion it is far better to wait until the subsidence of acute symptoms, and then the only admissible operation is a scleral incision or puncture, if there be inordinately increased tension.

408 Carter Building.

TUBERCULOSIS OF THE PERITONEUM.

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The man who speaks of tuberculosis of any organ must have in his mind a definite idea of what tuberculosis is or at least what he thinks it is. I think it is a bacillus which, gaining access to the body, multiplies under certain favorable conditions and produces disease. When the peritoneum is the organ which offers to the bacillus the *locus minoris resistentia* a copious effusion of serous fluid fills the spaces of the sac more or less rapidly and draws attention to the abdomen which may have been the seat of pain for several weeks. In the meantime there has been constant and progressive failure of the general health which cannot be accounted for by aberration of the heart, liver or kidneys. Temperature is not always abnormal during any part of the history of tubercular peritonitis, although the digestive functions and sleep are likely to be seriously disturbed.

I cannot from my own experience give a trustworthy account of the early symptoms and signs of this disease because I am not aware that I have had under my care a case before effusion has made its appearance. I have found my patients pale, looking sick, short of breath on exertion, sometimes constipated but oftener with loose bowels resulting from the cathartics which they have been taking. And, here let me say that many physicians think the tubercle bacilli pass from the intestinal mucosa to the peritoneum and that consequently the disease may be cured by a rigid process of intestinal antisepsis and catharsis provoked by some of the preparations of mercury. Now, again, my cases have been those which have failed to find a cure by these methods.

They have sometimes been mistaken for cysts of the ovary, uterus, Fallopian tubes and kidney. Not infrequently the patient has thought herself pregnant because of gradual enlargement of the abdomen and has misapprehended the significance of the other symptoms she has experienced. Menstruation has not always been suppressed. Two of my patients were women who had passed the menopause ten years before there was any impairment of health other than protracted recovery after parturition. In every case I have found a history of some sort of illness characterized by severe pain and tenderness in the abdomen, and usually it has occurred many months or years before. This fact leads me to think that tubercular peritonitis is a sequel to peritonitis resulting from other infections primarily. In illustration, let me mention the case of a molder who was operated upon for strangulated hernia and made a very tedious and tardy recovery three years before I found him with tuberculosis of the peritoneum. Nor have I always found a distinct and near history of family consumption although one of my patients was a woman whose husband was dying of pulmonary phthisis at the time I operated on her. She recoverd from the peritoneal tuberculosis but subsequently died of lung consumption.

The leading feature of all the cases which have come under my care has been a fluid in the peritoneal cavity—an ascites which could not be accounted for by disease of heart, liver or kidneys. It has generally been free in the peritoneun but sometimes was encysted or limited to a part of the peritoneal cavity by inflammatory deposits.

There is no disputing the fact that another type of the disease exists which is distinguished by the absence of effusion into the peritoneum. It is, however, very rare among my cases and is, I think, quite likely to be overlooked until a general tuberculosis calls attention to it. In one instance I found a case of this sort postmortem. The peritoneum was not only adherent at many points between intestines and omentum, but the pleura was disbanded by a glutinous mass which had so rapidily encroached upon the lungs that death ensued. The serous membranes and the lungs were shredded with miliary tubercles. I have sometimes found the peritoneum much thickened and presenting a granular appearance on incision.

Treatment should be both constitutional or hygienic and surgical.

It is possible that a cautious and skillful use of cathartics may sometimes bring about a cure but I have never seen this happen. Pure air and sunlight are splendid adjuvants to surgical treatment. A new hygiene after the operation is doubtless of great value in preventing recurrences, because it endeavors to establish a change in environment inimical to growth of tubercle. This is not always easy to establish. New houses, new grounds, new and wholesome food and water from new and uncontaminated sources, are easier to talk about than to arrange and devise for the patient. But that is what hygiene must mean for a tuberculous patient. If the germ has gained access to the peritoneum from a primary tuberculosis ulceration or infection of the alimentar canal, then those things which have been going into the canal and carrying o favoring tubercle bacilli should be strictly quarantined. I would not have m cases after operation subsist on wheat bread and raw water if they had bee accustomed to these foods, but on the contrary would allow cooked water an bread of some other cereal and made by another process. Probably the quickest and easiest way to establish these ends is by a change of climate, but often it is done in a reckless and slipshod way. Going to Arizona, California, Colorado or Florida simply, does not always insure the environment that is successful, because too often the patient omits the change of habits and food that is essential to recovery. And better results will be obtained by building a new house in a new place with more light and air in it if the dietary is also built upon new plans of new materials.

A medical friend brought a young woman of twenty-four years to me with tubercular peritonitis. I sent her back to her home and a few days later went out and operated (opening her peritoneum and letting several quarts of dark serous fluid escape and then closed the wound with a short drainage tube in the lower angle). Her home was of the conventional type of smart village house with small rooms, small windows, plenty of blinds and shades and trees overhanging roofs and porches. After the operation the doctor asked me what I would suggest for after treatment. I told him, a new house in another part of town with no blinds and no trees to throw shade upon the house. He replied, "very well, she shall have it; her father is able and will do anything for her." The patient made the usual uneventful recovery. About two weeks after my visit I found her father in my office with a big roll of plans and specifications for the new house. "Doctor," said he, "I have just come from the architect and want to show you the plans for our new house which you doctors say I must have for my daughter." I looked them over and found upright and sills, gables, and arches, deep overhanging eaves, with heavy depending ornaments all to me inextricably mixed. There were twelve windows and forty thousand feet of material spread over sides, roof, floors and partitions. I told him I could not tell much about the plans but I would suggest that he double the number of windows, knock out all the partitions except those for the kitchen and two of the bedrooms, and all arches with sliding doors in them and put the material into sides, floor and roof, increasing the air space to the greatest degree. Well, it seems that my advice was taken. The old man was something of a carpenter himself and with his men he made the architect's square feet of the material enclose all the light and air he could.

One day last winter I was coming home on the trolley car from Ann Arbor, and sat by a man whom I recognized as the architect who planned my patient's house. Returning my salutation he said: "I have just been out calling on one of my clients who was a patient of yours last summer, I believe. She is looking well and appears to be all right now." "Yes," I answered, "I hear she is growing strong and is much pleased with their new house." "New house! Do you know anything about that house? It is a very unsightly house. They raised hob with my plans—took liberties." I had to acknowledge it was an inelegant reply to my words and allusion to a structure in which I felt deep interest.

That patient has been greatly benefited by a residence in a new house with a new diet which her physician has scrupulously looked after. The operation was made as simple as possible. I thoroughly shaved and washed the abdomen, and then made an incision three inches long in the median line above the umbilicus, evacuating the fluid contents of the peritoneum, and then sutured the wound, leaving a short drainage tube in lower region of wound until the discharge ceased.

THE CONTAGIOUSNESS OF PULMONARY CONSUMPTION.*

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THE subjects presented to you this evening for discussion, although very much written and talked about, are nevertheless among the most interesting topics which engage the minds of medical persons, not only on account of the great mortality following the course of tuberculosis, but on account of the complex aspect of the disease in its relation to the medical profession, the public at large, and the police functions of the state.

As you are aware this disease tuberculosis, which includes a variety of pathological conditions, has been declared dangerous to the public health, contagious, infectious, et cetera, by a very worthy portion of the medical profession, besides several of the sanitary bureaus of the different civilized countries, and you are also aware that this declaration has been rejected by the minds of many equally responsible, honest and earnest medical observers. I may also remind you that this contest is not a new one, for at the beginning of this century pulmonary consumption in some countries of Europe, notably Austria and Italy, was declared *contagious*, and the subjects of the disease were pursued, quarantined and isolated according to the heroic methods employed by sanitarians of that period. History tells us that the condition of these poor wretches became pitiable in the extreme under the enforcement of the law by zealous officials, urged on by the frenzied and frightened populace, until humane and intelligent men and women were finally moved to compassion, and so effectually interceded that these laws were abrogated. I have not the time, nor is it necessary to relate to you seriatim the history covering the last century and a half of the evolution of the doctrine of the communicability or contagiousness of pulmonary consumption. Suffice it to say that history is about to repeat itself in many of the states of this Union, although I hope with a more humane sentiment, especially in our own state where some of our sanitary officials have already interpreted the law concerning the *reporting* and *quarantining* of contagious diseases dangerous to the public health, so as to *include pulmonary consumption* with small-pox, scarlet fever, measles and diphtheria.

Now, permit me to present a few points directly bearing upon this question for your consideration. First, it may be stated as an axiom that all disease is dangerous to the public health. On that abstract statement there can be no discussion, the only question arising in this connection being as to the degree of danger to the public health of one disease as compared with another. For instance, dysentery is one of the mildest diseases that we have to contend with in its so-called sporadic form in well settled communities; yet dysentery in newly settled communities may become endemic, epidemic and even prove a veritable scourge. Ordinary adenitis, even suppurative, when properly ma aged by the physician is a comparatively innocuous disease, so far as the li and ultimate recovery of the patient is concerned; yet we know that it occurs septic forms with varying degrees of virulence so that it may become, inste of a mild, an eminently epidemic fatal disease. The same thing may be sai of yellow and malarial fevers, of typhoid fever, of pneumonia, of cerebro-spina meningitis, of gangrene. Therefore, this difference of degree must certainly have a strong bearing upon the first proposition set forth. When a disease is so dangerous that it spreads from a sick person to a number of healthy persons readily by contact—carrying also serious or fatal consequences—there can be no question that rigid quarantine and isolation regulations should be enforced against it. But when spreading (if at all by contagion) slowly and covering months or years in its course, it certainly does not call for strenuous quarantine regulation nor for isolation.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

Now, how are the several diseases communicable? By contagion (contact) and by inoculation. There are two methods of communication by contagion, the natural and the artificial. There are also two methods of communicating disease by inoculation, the natural and artificial. To illustrate: A healthy person may be exposed to cerebro-spinal meningitis, measles or scarlet fever, and not take the disease under favorable conditions (whatever the degree of natural immunity he or she may enjoy), whereas under unsuitable conditions the same person would contract the disease. Likewise by artificial inoculation almost any of the septic diseases can be promptly and surely communicated, whereas under the chances of natural inoculation—the virus coming against granulating or old abrasions of the skin or mucous membrane—the disease would not be communicated. Again, the bite from a rabid dog, or from a rattlesnake may not prove to be a fatal inoculation when received under favorable or natural conditions, or when introduced into the stomach with food; while if the same virus from a rabid dog or a rattlesnake be injected directly into the cellular tissue by a hypodermic syringe there can be no failure in the advent of a dangerous sepsis following. Likewise would be the behavior of the tubercular virus or almost any other virus. The same comparative view might be taken of the toxin of Asiatic cholera. The toxin of Asiatic cholera might be applied to ordinary abrasions of the skin without effect, whereas its introduction into the stomach and intestines would be pretty sure to secure the development of the disease. And so it is all the way through with the general infectious diseases. Therefore their communicability or inoculability must be rated upon the average operation of their respective poisons under *natural* not artificial conditions. For instance, if it be known that a given disease is only feebly and exceptionally made to infect a number of persons by contact, its rank as a contagious disease should be greatly modified accordingly. On the other hand, if the disease be acute and virulent, of undoubted communicability, multiplying cases within a short time, and producing severe or fatal effects, it should be ranked likewise, according to this infective power, in the classification of diseases dangerous to the public health.

Regarding the disease in question, tuberculosis, it is generally conceded that it is of a complex nature as a rule, although by very many bacteriologists and good physicians its cause is assigned to the microorganism known as the tubercle bacillus of Koch. These persons believe that without the introduction into the system from without of the tubercle bacillus, there can be no tuberculosis of the lungs, joints, peritoneum, skin or other apparatus of the body. The more conservative observers, however (including also, I am happy to say, many bacteriologists), concede that although the tubercle bacillus is the important factor in a large majority of the cases, that other microorganisms such as the streptococcus, staphylococcus, pneumococcus, et cetera, may play the greatest part in the pathogenesis of most of the cases, and that besides the microorganism, a certain tendency, predisposition or diathesis must preexist. Those, of course, who believe that *the tubercle bacillus* is the *sole* specific cause of all tuberculosis, naturally believe also that the disease is eminently a contagious one and is spread and propagated entirely by the transference of this microorganism from the unhealthy to the healthy individual either through the medium of the air, food or soil. Moreover, it is quite commonly believed that the microorganism is inhaled by us all with the inspired air and that its presence in the air is due largely, if not altogether to the diffusion of the dried expectoration of persons suffering from the disease. PFLUGGE, however, believes and thinks he has demonstrated that the disease is more often acquired from the moist sputum entangled with the air, et cetera. It is believed also that the disease may be produced by the imbibition of the microorganism through the abraded skin or mucous membranes. It is, however, conceded by many who believe in this doctrine that the individual must have either a tendency or a nidus for the development of the microorganism, possibly some diseased spot in the throat or in one of the internal organs or glands which may furnish a habitat for the lodgement and development of the microorganism.

In view of all the accepted demonstrations and attendant theories concerning the specific character of the tubercle bacillus of KOCH, its transportation from without to within the body, and its migration from one place to another therein, there comes up, besides the so-called *crude* clinical observations, events, observations, and facts elicited from the experimental or biological field of research itself, which are tending to throw the shadow of uncertainty over many of the hitherto accepted notions concerning the morphology and mutations of all the pathogenic germs. DOUGLASS CAMPBELL, BESSEY, MASSART, COPE, and other well-known mycologists and vegetable physiologists point out the great uncertainty existing concerning our knowledge of these lowly forms of life—the schizomycetes or schizophytes. If this be so, then, it is no wonder that the anomalies in the pathology of tuberculosis and other diseases should awaken, in those skeptically inclined, a very positive desire to constantly keep in review all dogmas and doctrines relating to the nature of diseases which are found to conflict in any important particular with our daily clinical observations.

It happens, however, that certain forms of this affection occur in which no tubercle bacillus can be found and these cases have come to be recognized as cases of pseudo-tuberculosis.

It also happens that the diverse clinical history of two hitherto recognized tubercular affections, each affecting the same tissues, namely, *laryngeal tuberculosis* and *laryngeal lupus*, has led to great confusion inasmuch as the disease in the one runs a rapid and fatal course producing general infection, while in the other it runs a very chronic course with the production of little or no constitutional disturbance.

Again, it happens that new varieties of tubercular bacilli are being discovere which seem to differ from the typical one in many respects, namely, the avian the bovine, the spirilla or branching form, the actinomycotic forms, the smegm bacillus, and the bacillus found on grass, hay, and on the feces of the domesti animals about barn yards. While the several forms agree in their tinctorial an culture behavior in many respects, they differ in their morphologic and pathogenic or biologic aspects. Besides other anomalies in conflict with our orthodox theories is the one concerning the spread of tuberculosis by the circulation of the tubercle bacillus in the blood, a thing which some bacteriologists claim does not take place. I am sorry that time will not permit of discussing this phase of the subject further, but I think that briefly this brings before you the salient points concerning the bacterial nature of pulmonary tuberculosis from a pathologic view. As you all know, the basis for the establishment of this mixture of theory and fact consists of some positive experiments, and some positive but rather unfounded assumptions based upon analogy. Should we continue to reason upon all things by analogy our biology would be simplified to that extent that a Philipino could learn it in two months and our psychology could be brought to the understanding of the Hottentot in a few weeks. Reasoning by analogy, then, without clinical data, will not always furnish for us the proper tracks for the operation of our reason. To illustrate, I allude to the distinction between the natural laws of acquiring disease and the artificial process of producing it. It is undoubtedly true that pulmonary tuberculosis may be transmitted to the lower animals who have a tendency for the acquirement of the disease by the inhalation of the dried sputum, but in order to accomplish it the animal must be in rather an unhealthy condition, in an unhealthy environment, while the infecting sputum must be persistently furnished to the air respired by it. In doing so you will sometimes find that tuberculosis of the spleen and liver may precede the tuberculosis of the lungs, and furthermore, that it will be well nigh impossible to produce by these experiments tuberculosis of the pharynx, the larynx and the skin. It is also possible to produce tuberculosis in the lower animals (rodents) by inoculation with an infusion of the dust from a room which has been occupied by advanced tuberculous cases for a long time, but it will also be noted that the experiment may fail more often than it will succeed.

Hence, then, even in an artificial way, under intelligent supervision and outside of the operations of the natural laws of chance, the attempt to produce this disease often fails, not because of any lowering of the potency of the virus used, but because in one case the subject is probably a healthy animal under the very best sanitary environment (excepting captivity) while perhaps in the other case (where we succeed) the animal is diseased, and has been living under the most adverse sanitary environment. Yet these circumstances, I am sorry to say, are not always properly weighed in arriving at conclusions derived from such experiments. Now, upon the basis of such experiments, is promulgated the doctrine that *human pulmonary tuberculosis* spreads mainly through the diffusion of the dried sputum in the air, or by its entanglement in the domicile, in the street car, in the omnibus, in the railroad car, hotel, theatre, or other public place, and yet there is not an *instance* based upon *unmistakable evidence* of a case of human tuberculosis having originated in this way under ordinary natural circumstances. Undoubtedly the majority of these cases reported as having originated from exposure to the tubercle bacillus in public conveyances have been based entirely upon the bacteriological examination of the air and dust of these vehicles, showing the presence of tubercle bacilli, and without proper attention having been paid to other etiologic factors of the case.

This brings us again to the practical consideration of the questions of tendency, contagion and heredity. The doctrine of heredity as promulgated by BAUMGARTEN we will not have time to discuss. Neither have we time to discuss at length the question of tendency. It is believed by many, and so advocated, that the successive cases of pulmonary consumption occurring in given families have not depended upon either heredity or tendency, but have been due to contagion; that the wife may contract the disease from the husband, or the husband from the wife, the mother from the daughter, and so on, without hereditary tendency, and there are cases reported which seem to show it to be a fact that the disease has originated in this way. On the other hand, there are a great many thousand instances where the wife has been exposed under distressing circumstances, for a long time, to a tuberculous husband, a sister to a tuberculous sister, a mother to a tuberculous child, and so on, without either one having contracted the disease. It may also be stated that of hundreds of general hospitals containing from time to time many cases of pulmonary tuberculosis, there are very, very few instances of any new cases having arisen from such exposure. Therefore, I must respectfully contend that until the number of cases where the disease has been acquired by contagion indisputably (and I mean by that the exclusion of all other circumstances which are well known predisposing causes of the disease) is placed side by side with the record of the number of such exposures which have *not* been followed by the accession of the disease, and these compared one with another, we cannot formulate a principle upon which to decide whether pulmonary tuberculosis is contagious in the ordinary acceptation of the term, or if so, to what extent or degree it is contagious, and consequently to what extent the individval liberty of the patient ought to be given up to the public—by the method of reporting his name or quarantining him.

In this connection the question arises with regard to the physician's duty in the matter. I believe it is pretty generally known by the intelligent laity that the medical profession has always stood ready to defend the community against pestilence. History shows many thousands of instances of the sacrifice of life, comfort or health on the part of physicians in fighting the battle against pestilence both in peace and war. It therefore seems entirely unnecessary to offer even the shadow of an excuse of a personal nature for censuring any scheme promulgated by our sanitary departments. There is not a physician in this community or any other, who will not willingly practice the necessary self-abnegation to help protect the members of his or her community from disease. This we have always done, and this we shall always be willing to do, for we consider this one of our highest duties in life. But we also have another duty quite as sacred, namely, the protection of our individual patients. To screen their weaknesses, misfortunes, and sins from the public glare, to shield them from the scoffs of the curious and the disdain of the hateful, or fearful, an the physician who would so far forget himself as to ignore *this* duty is as muc of a coward and poltroon as he who would refuse to stand up and fight for th protection of his community against the inroads of epidemic pestilence.

Now, in this double position, what are we to do with regard to reportin cases of tuberculosis, syphilis and other diseases of like nature, where sanitar boards composed mostly of laymen interpret the law, create the regulations and impose upon us the duty of carrying out their interpretations? I am very glad to read in a translation kindly made for me by Doctor Amberg, that Proffessor Hueppe, an active member of the recent Congress for the Study of Tuberculosis held in Berlin, has very pointedly voiced his objections to the quarantining and immuring of tuberculous patients. He considers such methods inhumane and useless. He believes that strict cleanliness, fresh air and proper marriage regulation (by diminishing the tendency factor of causation which he believes in) will do more toward the prevention of tuberculosis than other quarantine measures.

In conclusion, allow me to say that if the medical profession, *as it should*, is to have the custody of the public health, then it is for the medical profession to say how far patients shall be required to give up their business, their prospects in life, and everything that is close and dear to them of a temporal nature for the benefit of their fellows. It is a great responsibility, I know, but I feel for one, as though I would quite as lief ask my neighbor to go upon the scaffold and give up his life to expiate the sins or excesses of his ancestors, as to ask him to give up his business, his home, and allow himself and his family to become ostracised paupers until the end of his life, because he has a chronic cough.

A SURVEY OF MODERN THERAPY.*

By FREDERICK McD. HARKIN, M. D., Marquette, Michigan.

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It has been much the fashion of late to speak of surgery as an exact science, and happily in this instance the fashion is very much of a fact. By natural inference one concludes that the practice of medicine is an inexact science, and certainly one need but study the prescription file of any drug store to be convinced that so far, at least, as modern medicinal therapeutics is concerned, we yet only see "as through a glass darkly." For instance, individualize the prescription file among several physicians, and investigation will soon discover what might be called three medicinal tone-notes, each one being characteristic of these three presumably equally well-qualified practitioners. Doctor A's tone-note may be calomel; Doctor B's may be calomel—very likely calomel—but it may also be iodide of potash, Carlsbad salts or the hypophosphites; Doctor C's predilection in the gentle art of prescribing may run to sodium salicylate, salol or lithia, or possibly to strychnia, iron and arsenic, but in each instance, no matter what trills and variations our doctors may excrcise in the way of morphia, bromides, digitalis, aconite, viburnum, et cetera, the clear, sonorous, distinct tone-note of each of them, can always be detected running through the music of their compositions. True, the music may sometimes lull a patient into a profound repose, or, on other occasions, by its marvelous effects as interpreted by indiscriminating friends, waken the very dead.

More seriously, however, let us briefly consider how this medicinal tone-note is likely to be developed in the individual doctor. He leaves college with a mass of favorite prescriptions and the contents of an ill-assorted pharmacopeia, jostling each other for first place in his teeming brain. He has a spendid faith in the efficacy of drugs, but happening to make a wrong diagnosis, tries a

*Read before the Upper Peninsula (Michigan) Medical Society.

favorite prescription, fails to relieve, and then condemns his medicines. Or, again, he rightly diagnosticates, but is unheedful of some hereditary taint or diathetic condition, and registers another failure. Another time his prescription is as proper as possible, but some simple rules regarding hygienic requirements are neglected and satisfactory results are not obtained. All this time, however, many of his patients are getting well, and he is registering the important observation that a certain patient recovered whilst he was taking such-and-such a drug. Later he administers the same medicine when a similar case presents itself, but very unaccountably the patient dies, and his favorite formula is again relegated to the gallery of doubtful remedies, or perchance to the cellar of oblivion. And so it was that his remedies for asthma did not relieve a case of nephritic dyspnea, nor his cardiac tonics abate the disordered heart action of a simple dyspepsia. But our doctor is a student, he is constantly reading, observing, comparing and forever broadening and deepening, at the bedside, those perceptive faculties which find their greatest sustenance outside of text-books and college halls, and when many humiliations and not a few mortifications have divested him of his cocksureness and snap methods of diagnosis, he gets back gradually to first principles, and becomes a more useful and much less dangerous member of society. He now has become a good diagnostician, and in acute conditions and diseases of well-defined characters, with a specific pathology, he manages well according to known and available means and methods. But it is in the host of minor ailments of indefinite, vague outline—an untractable reflex or an uncompromising neurasthenia, with an ache here and a pain there, a tired feeling or an incomprehensible fasting in nutrition—that leads the doctor to develop the tone-note of his prescription writing, and often this tone-note is based upon some more or less vague theory of general pathology, formulated from experience personal or otherwise—sometimes from mere preference, because of an apparent rationality—and occasionally from custom or mere prejudice. For example, one physician may make the nervous system the scapegoat of his diagnostic incertitudes, and may have reasoned it out in this manner: "Disease—a perversion of function. Normal function is dependent upon healthy nerve currents, which in turn are dependent upon the integrity of neurons and nerve centers; therefore, neurons and nerve centers demand my undivided attention. I must soothe or stimulate, nourish or otherwise rehabilitate them or restore them to a normal condition, then a cure will follow as night the day." The therapeutic menu card of such a physician would read something like this:

SOUP.
Celery (ad libitum).
FISH.
Early and Late, with Eggs in Season and Out.
PATE DE FOIE GRAS.
Cod-Liver Oil.
ENTREES.
Strychnia and Hypophosphites.
GAME.
Bromides, Opiates and Coal-Tar Derivatives.
REFRESHMENTS.
Malt Extracts, Coca and Kola.
DESSERT.
Static Electricity and Hypnotic Suggestion.

But there is another physician across the way who has little troubles of his own in the way of diagnostic dilemma. He may have gone a step farther in his reasoning than his brother practitioner, and reasoned after this manner: "Yes, unhealthy nerve centers, but why unhealthy? Because they themselves are dependent upon proper pabulum, derived from healthy blood—the vital fluid of the body—for their very existence and rightful sustenance; therefore, if I have evidences of perverted nerve function I must have to deal with unhealthy blood, and if I can but eliminate it of certain contained circulating toxins and enrich it, my patient must needs get well." So such a physician will frequently adorn his prescription pads with orders for iron, arsenic and manganese to stimulate the hematogenetic function, and fight toxins with antitoxins, possibly wash the blood with salines and diaphoretics, give nucleins to increase leucocytosis, and, let us hope, not forget to be explicit as to pure air, selected foods, proper clothing, regular baths and other hygienic necessities.

Another physician has struggled with the problem of perverted function to the end that his patient requires no nucleins or hematogenetics whatsoever, but that if certain errors of digestion and assimilation can be corrected and a proper dietary supplied, the blood will take care of itself; and so from his office goes forth many a legend calling for pepsin, pancreatin, maltose and dextrose, bitters and acids, salol, orphol, dermatol, sodium salicylate or other intestinal antiseptics, like our friend HAIG across the water.

Yet another physcian has concluded that excessive uric acidity is the *fons et origo mali*, and forthwith proceeds to enrich the manufacturers of lithia tablets, mineral waters and other antilithic remedies, of which indeed the name is legion.

This list of physicians would in no wise be complete without mentioning three other notables who, when the shaft of diagnostic light seems somewhat wavy and blurred, respectively advise themselves in this manner:

"When in doubt give iodides."

"When in doubt give quinine."

"When in doubt give calomel."

Understand me. This review of the individual tendencies or preferences of physicians in the selection of a remedy, is no attempt to in any manner caricature the art of prescribing as it is practiced toward the close of the nineteenth century, but rather it is intended to throw into relief, for our mutual benefit, the great *crux medicorum*, the inexactness of medical science. Upon what therapeutic measures do we as a rule all unqualifiedly agree?

(1) Hygienic measures of all kinds, with rules regarding air, food, rest exercise, clothing, bathing, massage, et cetera.

(2) The so-called specifics—quinine in malaria, mercury and iodides in syphilis, thyroid extract in cretinism and myxedema, and antitoxin in diphtheria. Let me add another not usually classed as such, but one which I can heartily recommend, apomorphine in emotional and paroxysmal hysteria. Of course we have had many specifics for tuberculosis—from sulphuretted hydrogen gas and numerous tuberculins to cinnamic acid injections and urethral aseptolins. The former having failed the latter were tried, also ineffectually, with antiseptic inhalations and cod-liver oil, and now that DOCTOR MURPHY is trying the nitrogen treatment, let us hope that he will not allow himself to be worsted by the latest and much heralded discoverer from Paris whose wonderful formalin, by the aid of electricity, it is claimed most utterly routs from the body the unconscionable germ of the great white plague.

(3) In a general way we can agree upon the value of sodium salicylate in rheumatism, iron in anemia, arsenic in some skin diseases and chorea, digitalis and strychnia in certain heart weaknesses, bromides in epilepsy, viburnum as a uterine sedative, and a few others. Then, as suggested before, in acute diseases or diseases of familiar and well recognized features, when oftentimes a life hangs in the balance, our disagreements are much less frequent and pronounced and the therapeutic indications more plain and apparent. Fortunately for the public upon whom we exercise our art, our greatest differences in therapeutic effort are in cases which tend to spontaneous recovery, and if we will only endeavor to not overdose our patient, and he has an enduring constitution, he will likely get well in spite of us.

These little variations of pet theories and favorite formulæ are perhaps after all, but natural products of the inevitable law of evolution which leads to integration, increasing complexity and multiformity, and who knows but that in the near future, with increased knowledge of vital processes and physio-chemical conditions, there yet may be evolved some simple law which shall guide us infallibly in our therapeutic operations. True, at one time it was thought that such a simple law had been discovered—"*similia similibus curantur*"—but this dogma was altogether too simple for general acceptance.

In conclusion, let me say with the old professor, "God is great and the vis medicatrix naturæ is strong," and let us remember that our disagreements are but the frictions which evolve the truth that ends in harmony.

A CASE OF HIP-JOINT AMPUTATION BY WYETH'S BLOODLESS METHOD.*

BY R. B. BAIRD, M. D. AND G. L. CORNELL, M. D., MARINE CITY, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

A YOUNG man aged eighteen and one-half years met with an accident in July, 1897, by falling from a tree, injuring his right knee. The result of this injury was an osteo-sarcoma involving the knee and lower third of the femur, which gradually enlarged until it measured twenty-eight and one-fourth inches in circumference.

We first saw the patient in December, 1898, after he had been treated by other physicians with blisters, poultices, et cetra, and advised an amputation, but his father would not consent. A month later patient was taken to Ann Arbor and surgeons there strongly advised an operation and again his father refused his consent and brought him home, since which time he has been under our care.

On June 1, while we were dressing the leg patient had a profuse hemorrhage and nearly bled to death before a tourniquet could be applied. Not deeming it safe to again dress the leg on account of danger of hemorrhage we strongly urged an amputation at the hip-joint as the only possible means of prolonging the patient's life. He was greatly emaciated and weighed only one hundred pounds.

We prepared him as best we could considering the poor hygienic surroundings (patient being a county charge), and on June 21, assisted by DOCTORS T

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

E. **DeGurse** and J. **Kearns**, we operated by Wyeth's bloodless method and found the femur infected its full length. Patient rallied nicely from the operation, which lasted ninety-five minutes, and excepting slight periods of restlessness, caused presumably by visitors who were admitted during our absence, has made an uninterrupted recovery. His highest temperature was on the fifth day, when it registered 105° Fahrenheit. We redressed the stump on the eighth day, and found the wound healing by first intention, temperature normal, and pulse 86. Since that time he has been sitting up daily, and used his crutches for the first time four weeks to a day from the day of operation. He is still greatly emaciated, but is gaining rapidly, and at the present writing is in the country visiting.

Our object in reporting this case is: (1) It is the first time this operation has been performed in this vicinity, so far as we can learn. (2) The extremely emaciated condition of the patient. (3) The exceedingly poor hygienic surroundings, his home being a miserable one-roomed house neither lathed nor plastered, and permitting an extended view in every direction through cracks in the roof, walls and floor, obliging us to tack sheets to rafters and walls. (4) The very good results obtained under such adverse circumstances.

"The American Text-Book of Surgery" says that an early recurrence of this disease, following amputation at the hip-joint, is almost absolutely certain, but if this patient's life is prolonged for even one year we think that we were justified in giving him the only chance he had to enjoy this lease of life.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, SEPTEMBER 18, 1899.

The President, CHARLES DOUGLAS, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor M. R. Beaudoin–Bennett, of Jackson, Michigan, read a paper entitled "Sympathetic Ophthalmia." (See page 552).

Doctor Connor: This is the most obscure and interesting subject in ophthalmic practice and also very rare. It is unique that without general affection the companion organ is affected. The eyes are very intimately connected, for when pressure is exerted on one ball lachrymation is produced in the other eye, and light affects the pupils of both eyes although the lid of one eye be closed. There must, then, be one center in the brain which correlates the eyes. In the year 1840 **Mackenzie** brought out the theory that the optic nerve was the medium of transmission of this disease. **Muller**, in 1858, after examination of eyes enucleated from this disease, pronounced the ciliary nerves to be the conductors. In 1881 the views of septic infection were brought out and advanced by several men. **Deutschmann** experiments largely with the lower animals and traced the infection, and found germs of like nature in both eyes. Gifford and others were unable to reproduce the results by experiment. At the present time, the absolute mode of transmission is unknown. Probably in different cases different routes are employed. There may be a specific germ for this disease. With exactly the same kind of an injury, sometimes the disease is produced, but more often not. There seems to be a peculiarity in the individual which makes him susceptible to the disease while most persons are immune. A great variety of diseases are causative factors, as burns of the conjunctiva, calcareous deposits in the cornea, injuries in the ciliary region, et cetera. The same disease is not necessarily produced in the other eye. I have only had one case, in which a tack flew up and struck the cornea in the center, and the sympathetic inflammation was produced without symptoms of irritation. A sightless eye should be taken out. Enucleation is preferable to Mules' operation, as there is less danger of trouble afterward.

Doctor Don. M. Campbell: This disease has been under observation for over one hundred years. I have never seen a case in the active stage, but one occurred in my practice after many years. Many cases of sympathetic irritation have been under my observation, however. I operate after Mules' method, as there can be no infection after one destroys the nerve end organs, which causes the nerve to atrophy. A better artificial eye, as far as cosmetic effects go, is produced, and there is less watering of the eye.

Doctor Walter Parker: Substances injected under one nerve sheath have been found in the nerve and uveal tract of the other. Many cases are probably induced by irritation of the ciliary nerves. When you can keep a case under observation in which there is lodgment of a foreign body in the eye, watch it closely, if there is possibility of some sight from it; otherwise enucleate.

Doctor Gillman: I have seen one case. It occurred in Doctor Eugene Smith's practice nine years ago. A person was driving a nail into a board when a piece of the nail flew up and struck the spectacles which the man was wearing, causing some particles of glass to penetrate the eye. Some weeks afterward an iridocyclitis was developed. The more experience I have the braver I am with wounds of the eye, even of the ciliary body, when under careful observation. When an eye is atrophied, enucleation takes away all danger. In animals there are no cases. It seems peculiar that the brain is not affected in these cases. Three weeks ago I enucleated an eye in which, twenty-four years after injury, sympathetic irritation manifested itself. A particle of bone was found in the ciliary process through which ran a long blood-vessel.

Doctor Maass: Predisposition is an important factor, probably, due to some obstruction to the lymph flow, which is deflected to the other eye. Toxins may produce the disease without the germs being present.

Doctor E. Amberg: I believe this condition is due to infection, as I do not consider there can be inflammation without it.

STATED MEETING, DECEMBER 5, 1899.

The President, CARL BONNING, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Ernest L. Shurly read a paper on "The Contagiousness c Pulmonary Consumption." (See page 560).

Doctor J. J. Mulheron: The question is certainly one of deep and vital interest, not only to physicians but to the public at large. I think a great deal of the confusion which exists in regard to this matter is due to the natural effect of the ardent desire on the part of the profession to arrive at some definite understanding concerning the subject of tuberculosis. As general practitioners we have little opportunity to investigate the matter. We judge of it solely from our observation from a clinical standpoint. Practitioners of long standing have as yet only indefinite views, and when a statement is made by some scientific investigator as the result of his laboratory experience we are inclined to accept such a statement. We saw this in the case of KOCH. In a short time there was a great deal of doubt cast upon the result of his discovery. Is the tubercle bacillus a cause or a result of tuberculosis? There is no definite agreement on that fundamental proposition. The profession is about equally divided in regard to it. VIRCHOW and other pathologists hold diametrically opposite views upon this one basic question. We remember also how KOCH's tentative report in regard to the value of tuberculin was received. In a short time we found that his statements were originally not intended to be accepted as final, and that his experiments were found to be valueless. So we are constantly at sea. Our own observation is our only guide. We know that consumption is not a contagious disease in the sense that we regard contagion in connection with other diseases, such as small-pox, scarlet fever, diphtheria, et cetera. I make that as a simple dogmatic statement. Such information as we have upon which to base our opinion that the disease is communicable comes to us as a result of laboratory experiments, which are purely theoretical, and the results of clinical observation, in the present state of our knowledge, outweigh all such investigations. While in Europe about a year ago I noticed that in the Vienna Algemeine Krankenhaus tuberculous patients were allowed to mingle with other patients, and the possibility of contagion was scoffed at.

DOCTOR H. L. OBETZ: I endorse heartily everything DOCTOR SHURLY says with regard to the quarantining of these patients. No man who has seen quarantine in its effects will agree to anything so radical for tuberculosis in the present state of our knowledge. The public does not appreciate it, and I do not believe they expect the law to be carried out. What does it mean in the case of a workman employed in some factory who has a case of diphtheria or scarlet fever in his family? It means that he is taken away from his work, that he loses his place, it means almost starvation because his neighbors will not go near him. When we establish a quarantine we should see to it that every safeguard is thrown around the quarantined. For diseases of short duration it will be found that the expense is considerable, and when it comes to employing it in tuberculosis, a disease lasting in many cases for several years, not a state will be able to pay the cost. I feel that DOCTOR SHURLY is taking the proper stand, and every physician should support him. As to the contagiousness of tuberculosis, that is a question that is not yet fully decided. One physician has stated that if a case of consumption and one of small-pox were in the same room he would be more afraid of consumption. Imagine such a statement from a physician.

DOCTOR H. C. WYMAN: It appears to me as though the question raised by the writer of the paper was largely one as to the danger which confronts this community and other communities from the disease tuberculosis. Those of us who have given any attention to the subject of investigations made in connection with tuberculosis know that they are wholly experimental. We lose sight of the fact that a great deal of the experimentation has proved unsatisfactory. There has been very much written about the contagiousness of tuberculosis. Now, as we see this disease among us, no such condition obtains. The conditions are not favorable for grafting the disease, and until a grave danger of that sort does confront us, until we can plainly see that the presence of a case in a family seriously threatens other members of that family, we are not justified in adopting any arbitrary measures of exclusion. I believe the conclusions of Doctor Shurly are to the point, and more to the point than we can get from laboratory work.

Doctor T. A. McGraw: I certainly believe that the state of our society at the present time does not warrant any such measures as are being taken by the board of health today. I do not think that the profession as a whole in this state will back up the State Board of Health in this connection, and one of the difficulties is that the man who has charge of the work of the board of health in this state is a man who has never practiced medicine. He is a man who gets all the knowledge he has on the subject from a study of theoretical books. His knowledge is the knowledge of the laboratory and not of the practical. I have had some personal experience in my own family with this disease. . I had a very near and dear relative who had consumption for a great many years, and who eventually died of it. She had a husband and four children who lived with her all that time in the same house. Absolutely no precautions whatever were taken. She lived for years in that house coughing as consumptives do. Not one of that household ever acquired the disease, nor have they to this day. To have been obliged, as a medical man, to do to that relative what the board of health has ordered shall be done to other consumptives in this state, to me would have seemed cruel and useless beyond all expression.

Doctor McLaren: I am opposed to quarantining cases of consumption. If you isolate patients afflicted with tuberculosis you destroy in many cases their chance of earning a livelihood, and until some plan is provided for taking care of these individuals, as well as those dependent upon them, it is not possible to carry out the law regarding the isolation of such cases.

Doctor Crumrine: I am of the opinion that tuberculosis is not contagious, and for that reason I would oppose quarantine and isolation as proposed by the board of health.

Health Commissioner Lawson: We as a health board want to do the greatest good to the greatest number. I feel that just such meetings as this will do a great deal of good, not only to educate the physicians but to educate the people as well. There is much that can be said on both sides of this question. As far as I am individually concerned, I do not believe in the infectiousness or contagiousness of tuberculosis.

Doctor Flintermann: I believe the law promulgated by the State Board Health is not a good one, and I would fight it, but when Doctor Shurly say or any other gentleman here on the floor says that tuberculosis is not an infe tious disease, I cannot agree with him. I can show from the same authori from which Doctor Shurly quotes that tuberculosis is due to the tuber bacillus, and I take exception to the statement made by him that tuberculosis may be due to other bacilli than the tubercle bacillus. If I speak of tuberculosis I mean the disease produced by the tubercle bacillus. The International Congress of Tuberculosis held last summer agreed that the tubercle bacillus is the cause of the disease; that tuberculosis is one of the most frequent, most fatal and most dangerous diseases; and that there are more deaths from tuberculosis than from any other of the infectious diseases. The Congress set out to determine a method of preventing the spread of the disease rather than to discuss how to treat it. In all cases of tuberculosis are certain signs and symptoms, but the statement made by DOCTOR SHURLY that the tubercle bacillus has not been found in a majority of the cases of tuberculosis I must again take exception to. It has been found in more than ninety-five per cent. of the cases. There seems to be an opinion that a fear of tuberculosis did not exist before the discovery of the tubercle bacillus. I do not think that is so. It is a well-known fact that the dread of this disease existed among the people long before the discovery of the tubercle bacillus by KOCH. They had an idea that there was something by which the disease was produced; that there must be something which brings it on. There must be a cause for it, and investigators have for years and years worked to find a cause for its frequency, and why it is so dangerous. I agree with DOCTOR SHURLY as far as his objection to compulsory notification of tuberculosis is concerned. I think there are a great many other measures which we might take to protect the public. DOCTOR MULHERON'S statement that VIRCHOW was not of the same opinion as KOCH, with regard to the cause of tuberculosis, I do not believe is correct. PROFESSOR VIRCHOW at the International Congress made a motion that a committee be appointed to take steps to prevent the spread of the disease by food and provisions. CORMANT, a French writer, reported two cases of "typical tuberculosis," wherein he stated that the cause had been found to be streptococcic.

DOCTOR WARREN: It seems to me that we are going back to the dark ages when we say that tuberculosis is not due to the tubercle bacillus after all the experiments that have been made upon animals by KOCH and other investigators. Clinical teaching, statistics, and the report of the International Congress of Tuberculosis, and all that sort of literature which is open to every one would seem evidence enough to convince anyone on that point. It appears to me that when any one of us stands up here and says that the tubercle bacillus is not directly the cause of tuberculosis he is speaking without logical ground on which to base his argument. When it is known that among those infected with tuberculosis the germ is demonstrable in such a large majority of the cases it seems to me that we must admit that there is a direct cause and effect relation between the tubercle bacillus and tuberculosis. I believe that the whole subject of tuberculosis in its relation to the human race must be worked out by public education. Public opinion must support any measure.

DOCTOR C. G. JENNINGS: I have only a few words to say. In the first place I will announce that my opinion is firmly against any efforts on the part of the state to quarantine individuals. It is unnecessary to go into arguments to support this opinion. If the state has it in mind, as DOCTOR MCCLINTOCK says, simply to collect evidence in regard to the prevalence of tuberculosis, and to secure other scientific facts, I would heartily endorse the efforts of the state in obtaining these, but to subject tuberculous individuals to the restrictions of quarantine, *espionage*, and all the terrible results that would come from such restrictions, I should say the state has no right to do that in the present condition of our society. In regard to the morphology of tuberculosis I cannot agree with Doctor Shurly. I cannot agree with the propositions that the streptococcus or staphylococcus produces tuberculosis, and that pneumococcus infection is alike in its results to the tubercle germ. The opinion maintained by leading minds of the profession is that tuberculosis is the result of tubercle bacillus infection. I cannot read medical literature and arrive at any other conclusion. Concerning the transmissibility of contagion, I must confess that the trend of the best medical opinion is that tuberculosis is to certain individuals under certain circumstances communicable; that certain individuals when subject, under certain conditions, to contact with tuberculous persons will contract tuberculosis, and they would not contract it if it were not communicable.

Attorney A. H. Frazer: The board of health of this city resolved that the prosecuting officer of this county, at the command of the board of health, should enforce that statute which says "that the physicians must report contagious diseases, and that consumption is a contagious disease; it has been so determined by the State Board of Health." I had no discretion in the matter. As a prosecuting officer I am simply an executive officer, and it is my duty to enforce laws placed upon the statute books, no matter if some one thinks they are a little foolish. As a result a suit was brought against Doctor Shurly, or in other words, we decided to sue him to see whether the statute would hold or not. We tried it and beat him. From what I have been able to read upon this subject, and from remarks made by gentlemen here tonight respecting the trend of medical opinion, I believe that consumption of the respiratory organs is a contagious disease. From what I can gather from the discussion here tonight there is a great diversity of opinion. Some say that the disease is not contagious, some say mildly contagious, and others say that there can be no consumption without the tubercle bacillus. Doctor Shurly says there is consumption without the tubercle bacillus. You do not know all about this subject, if you will pardon such a statement from me, and the State Board of Health simply ask that these cases of consumption be reported in order that they may be able to gather statistics and formulate laws that will be for the advantage of the whole people. The proposition seems to me a fair one as far as it goes, and it ought to receive at the hands of the medical profession all the aid possible for it to give. It is not the purpose of the State Board of Health to isolate these cases, and it seems to me that they are fair in this purpose. I do not think that it is any worse to report that I have consumption than to report that I have small-pox or any other disease which it is necessary to report in order to protect the general good.

Doctor Carstens: There is no comparison between small-pox, diphtheri scarlet fever and consumption, and I think the medical profession is unan mous upon that point. We do not say that consumption is not contagious, b that it is so only to a very limited extent. You cannot bring a small-p patient into this room tonight without almost every one present contracti small-pox as a result if he has not been vaccinated. The same would apply a case of diphtheria. Now, have a patient with consumption brought in a let him stay here all night and it is possible that not one of those present will contract consumption. We know that laws have a certain amount of elasticity. The State Board of Health says that you must define what are contagious diseases. That is all. The whole question resolves itself around this one point: That the medical profession, with very few exceptions, insist that the State Board of Health and the city board of health shall not consider consumption as a contagious disease in the sense that small-pox, diphtheria and scarlet fever are contagious, and no board of health, be it state or city, can ever enforce any law or accomplish any good unless it has the support of the profession; and when the medical profession almost unanimously say to the board of health: "We do not support you; we do not believe in your purpose, as it is cruel, unjust and inhuman;" then if that board of health would have any common sense they would recede and not take the stand they do. When we become perfect in our knowledge of consumption, regarding liability to contract the disease, and how we can absolutely prevent it, then the medical profession will be the first to urge the State Board of Health to take action. If they simply want statistics all they have to do is to send around for them, and the medical profession will be happy to furnish all the statistics they need.

DOCTOR LONGYEAR: It is not fair to talk about the intention of the State Board of Health or of the city board of health to isolate cases of consumption. They simply want to disseminate knowledge in regard to the disease. We are all agreed that it is mildly infectious. When the State Board of Health agree to keep the names of persons afflicted with disease secret there is no reason why they should not be reported by physicians.

REPORTS OF CASES.

PRACTICE OF THEODORE A. McGRAW, M. D.

PARALYSIS OF LEFT ARM AND LEG AND BILATERAL DISLOCATION OF LOWER JAW.

JAMES S., aged thirty-two years, married, fell the 12th day of June, 1898, paralyzed in his left arm and leg. He suffered, at the same time, a bilateral dislocation of the lower jaw. The attention of his physician was so occupied with the paralytic symptoms that the condition of his lower jaw was either overlooked or misinterpreted, although his chin projected far beyond its normal position to an extreme degree, his mouth could not be closed, and his jaw was nearly immovable. The correct diagnosis was made first by DOCTOR DAVID INGLIS more than four months after the accident. An effort at reduction was made by DOCTOR F. W. ROBBINS without success, under an anesthetic, on October 15, 1898. On November 2 I first saw the patient. He had then recovered the use of his leg, but his left forearm and hand were shrunken and contracted. He could not move the thumb at all, and could not completely move the fingers. There was a dark spot below the middle of the leg where there had been an old ulcer, and the veins of that leg were varicose. I could get no history nor evidence of syphilis, and the cause of the paralysis was doubtful. The jaw showed the typical symptoms of bilateral dislocation. On November 9 I put him under an anesthetic, and made an effort to reduce the luxation without being able to move the jaw in the slightest degree from its abnormal position. Failing completely I postponed operations for a week, and had an instrument consisting of a piece of steel bent in such a way as to make a blunt hook at one end three-eighths of an inch long, and a handle at the other. On November 9 I made an incision, under an anesthetic, under the right zygoma, with another at right angles extending down over the parotid. I separated the fibres of the masseter, inserted the hook over the sigmoid notch of the jaw, and pulled the bone downward and backward until I had moved it somewhat out of its position. I then made a straight incision under the left zygoma, and putting the hook over that sigmoid fossa, made traction until I felt the bone slip into place. These efforts had to be repeated several times with great force before I could be finally satisfied with the result. This is the fifth day since the reduction, and the patient is in prime condition and has full use of his jaw. The operation was followed by edema of the face which has now subsided, but by no other bad symptom. The case is peculiar in the method used for its treatment and in the age of the dislocation.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, SEPTEMBER 26, 1899.

THE PRESIDENT, FREDERICK W. ROBBINS, M. D., IN THE CHAIR.
REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR HAL C. WYMAN read a paper entitled "Tuberculosis of the Peritoneum." (See page 557.)

DOCTOR WARREN: I should like to ask what would be considered the procedure when no effusion is detected? In a case of healed tuberculosis of the larynx, for the last six weeks there has been the classical pain of tubercular peritonitis but without effusion. We were able to exclude everything else but this.

DOCTOR METCALF: I should like to ask (1) If in cases wherein the primary seat of the tuberculosis was in the uterus and appendages the writer had seen recovery without removal of these organs and breaking up of adhesions? (2) If the omentum be involved and appear in rolls and folds, by removal of omentum and appendages there was recovery? HOWARD KELLY gets one hundred per cent. more recoveries without drainage.

DOCTOR RUSSELL: The marks of tuberculosis are so certain that we can tell for years beforehand that a patient will contract it. I have had a large experience with pulmonary tuberculosis, and I have seen a patient with cavities in the lungs live twenty-seven years. A great deal depends upon hygiene, and little upon medicine. This patient nursed a baby and then another thirteen years later. In 1836 I had a case in which the cavity in the lung was so great that ribs were absorbed, yet that patient lived several years.

DOCTOR CONNOR: The question is, what form and amount of exercise is to be allowed? Another point is the value or penetrating power of different kinds of heat? Sun heat, or open fire heat penetrates farther than radiator heat. Hence the value clinically of sunlight and direct heat. The question of nutrition is also important. It is a broad term and larger than the operative factor in these cases.

Doctor A. McLean: This is interesting, especially so far as treatment. Light and oxygen seem antagonistic to tuberculosis. It is not easy to make a diagnosis early, but operation seems necessary for recovery. The attempt to put oxygen into the peritoneal cavity without opening was not successful. Aspiration is not effectual. It is said that the air assists in destroying the bacteria, yet sterilized air injected into the abdomen was not effectual. In 1862 Sir Spencer Wells first opened the abdomen, put in drainage and his patient rapidly recovered.

Doctor Robbins: I am surprised at the ages of the patients, especially the one at fifty-five. It is found usually in children under sixteen.

Doctor Wyman: In a case wherein there is no effusion it is hard to recognize the disease and I should not advise operation unless there was distention or disturbance of the organs. I have drained a number of cases, where the uterine appendages were involved, from the cul-de-sac without removal. When the omentum was involved I have dusted the folds of the omentum with iodoform or even removed portions of it, and secured recoveries. Kelly's method of operation without drainage is not new, but I have not used it. In cases wherein the tubes are affected and the ovary is in a mass of tissue, I have pushed a drainage tube through the cul-de-sac. There has been some doubt that the cases might not be gonorrheal. Many died from general tuberculosis, though the operation on the peritoneum was successful. I use both active and passive exercise, but do not advise the active exercise when there is a temperature.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, SEPTEMBER 14, 1899.

The President, ROBERT H. HONNER, M. D., in the Chair.
Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctors R. B. Baird and G. L. Cornell, of Marine City, presented a paper on "Hip-Joint Amputation." (See page 568).

Doctor Maass: The first attempt to amputate through the hip-joint dates back as far as the beginning of the last century. Since that time various attempts have been made to lessen the danger of bleeding. The principle naturally has always been the same, namely, to secure the femoral artery previous to its division. One of the earliest methods consisted in thrusting a long knife through the thigh between bone and vessels, as high up as possible and cutting down, avoiding the vessels until an assistant could grasp the muscle and skin flap with both hands and compress it. I think that scarcely a person lives today who has experience with this method. I do not know how often it has been applied, and what is the mortality. Methods similar to the Wyeth operations have been advised before Wyeth. He holds the elastic constriction in place by long needles thrust through the soft parts, avoiding the vessels. It is without question a good method of operating, though it has its disadvantages and dangers. One is that the needles might meet an unusually large collateral artery which would cause trouble after the needles are removed. I prefer the older method of B. V. Volkmann, who holds the constricting tube in place by the hands of an assistant. But the control of hemorrhage is not the only disadvantage of the preliminary amputation through the femur. It is easier to handle the stump during the following amputation through the joint than it would be to handle the whole leg. This tourniquet operation, as I might call it, whether according to VOLKMANN or WYETH, has its strict indication and limits. Cases may occur wherein it is better to follow up a different way. If there are glands above Poupart's ligament inside of the pelvis, and closely attached to the large vessels in the groin, the method would not be sufficient. Under such circumstances we have to secure the vessels higher up. To this end VON ESMARCH has devised an apparatus which compresses the abdominal aorta through the intact abdominal walls. I do not think that this method is a very safe one, as in case of strong recti muscles and in a bad narcosis the patient might dislocate the compressing pad. It would be better to proceed according to MCBURNEY, open the abdomen sufficiently to admit one finger, and have the iliac artery compressed by an assistant. In some cases it may be possible to secure the artery above Poupart's ligament without entering the peritoneal cavity. The vessel may be caught with a blunt hook and compressed between it and the finger of an assistant. I have done this recently in a case of an old accidental injury to the femoral artery. The large accumulation of blood in the thigh had been taken for an abscess, a very excusable error under the accompanying circumstances, and cut in two. Instead of pus a terrific bleeding followed, which was controlled by an improvised tourniquet. I found the patient nearly exsanguinated, and his thigh encircled several times by thin rubber tubing. There was not space enough between these and Poupart's ligament so that I had to proceed in the above manner. After having removed about a quart of blood clots, this bleeding point was found about a foot below the hip. After tying the artery here the iliaca was released, and the patient has a useful leg today. To tie the iliaca instead of temporarily compressing it, might have endangered the vitality of the leg and led to gangrene. In the same way one can proceed in cases of amputation and secure a better blood supply for the flaps. Under the unfavorable circumstances under which the reader of the paper was compelled to operate, certainly skill and courage were needed. He has shown himself possessed of both, and I congratulate him upon his successfully accomplishing the task.

EXHIBITION OF SPECIMENS.

DOCTOR CAMPBELL presented four skiagraphs. One showed a bullet in the elbow-joint of a policemen, the bullet being divided into two parts; the second showed a needle in the wrist of a lady; the third, fracture of a baby's leg; the fourth, fracture of the astragalus.

EDITORIAL ARTICLES.

LEGAL STATUS OF OUR STATE AND LOCAL BOARDS OF HEALT

To those who have been the recipients of the effusive declarations of t State Board of Health and of the mandatory contributions of our local burea and especially to those who were cognizant of the test case of DOCTOR E. SHURLY in the Justice Court, embellished as it was by a rather imposing an spectacular array of witnesses and terminating with a deliberate but unequivocal judgment against the defendant, the abrupt and at least temporary reversal of the suit in the Circuit Court came with considerable interest and possibly with some surprise. In view of the positions assumed and contested, relative to consumption and certain other diseases, there has arisen a pertinent query as to the powers and duties of our boards of health.

The act under which the State Board of Health operates is known as Act Number 81, Laws of 1873, and entitled, An act to establish a State Board of Health, to provide for the appointment of a Superintendent of Vital Statistics, and to assign certain duties to Local Boards of Health. The duties of the State Board of Health are assigned in Section 2, which reads:

"The State Board of Health shall have the general supervision of the interests of the health and life of the citizens of this State. They shall especially study the vital statistics of this State, and endeavor to make intelligent and profitable use of the collected records of deaths and of sickness among the people; they shall make sanitary investigations and inquiries respecting the causes of disease, and especially of epidemics; the causes of mortality, and the effects of localities, employments, conditions, ingesta, habits, and circumstances on the health of the people. They shall, when required, or when they deem it best, advise officers of the government, or other State boards, in regard to the location, drainage, water supply, disposal of excreta, heating and ventilation of any public institution or building. They shall from time to time recommend standard works on the subject of hygiene for the use of the schools of the State."

Section 3 gives the Board authority to send their Secretary, or a committee of the board, to any part of the State, when deemed necessary, to investigate the cause of any special or unusual disease or mortality. Concerning the duties of the Secretary, Section 5 declares:

"He shall keep his office at Lansing, and shall perform the duties prescribed by this act, or required by the board. He shall keep a record of the transactions of the board; shall have the custody of all books, papers, documents, and other property belonging to the board, which may be deposited in his office; shall, so far as practicable, communicate with other State boards of health, and with the local boards of health within this State; shall keep and file all reports received from such boards, and all correspondence of the office appertaining to the business of the board. He shall, so far as possible, aid in obtaining contributions to the library and museum of the board. He shall prepare blank forms of returns, and such instructions as may be necessary, and forward them to the clerks of the several boards of health throughout the State. He shall collect information concerning vital statistics, knowledge respecting diseases, and all useful information on the subject of hygiene, and through an annual report, and otherwise, as the board may direct, shall disseminate such information among the people."

Section 8 says of health physicians, that—

"It shall be the duty of the health physician, and also of the clerk of the local board of health in each township, city, and village in this State, at least once in each year, to report to the State Board of Health their proceedings, and such other facts required, on blanks and in accordance with instructions received from said State Board. They shall also make special reports whenever required to do so by the State Board of Health."

Similarly Section 9 provides that—

"In order to afford to this board better advantages for obtaining knowledge important to be incorporated with that collected through special investigations and from other sources, it shall be the duty of all officers of the State, the physicians of all mining or other incorporated companies, and the president or agent of any company chartered, organized, or transacting business under the laws of this State, so far as is practicable, to furnish to the State Board of Health any information bearing upon public health which may be requested by said board for the purpose of enabling it better to perform its duties of collecting and distributing useful knowledge on this subject."

Section 10 was amended by Act 107, Public Acts of 1883, to read:

"The Secretary of the State Board of Health may publish in his annual report such information, or statistics, as is provided for in this act."

According to Section 1634, "Howell's Statutes," it is incumbent upon every local board of health (the township board being the board of health in every township, and the common council acting likewise in every city and village when no special board of health is provided for by charter) to appoint and constantly have a health officer, who shall be a well-educated physician and act as the sanitary advisor, and an executive officer of the board; et cetera. In the restriction of communicable diseases, Section 1647 of "Howell's Statutes," as amended by act approved April 26, 1895, imposes duties upon local boards of health as follows:

"When any person coming from abroad or residing in any township within this State, shall be infected, or shall lately before have been infected with the small-pox, or other sickness dangerous to the public health, the board of health of the township where such person may be, shall make effectual provision in the manner in which they shall judge best for the safety of the inhabitants by removing such sick or infected person to a separate house, if it can be done without danger to his health, and by providing nurses and other assistance and necessaries, which shall be at the charge of the person himself, his parents or other persons who may be liable for his support, if able; otherwise, as a charge of the county to which he belongs. *Provided*, That the health board shall keep and render an itemized and separate statement of expenses incurred in so caring for each person."

"To prevent the spread of dangerous communicable diseases, by providing for the punishment of willful offenders," Act Number 15, Laws of 1891, provides a penalty of "a fine of not less than twenty-five dollars, nor more than one hundred dollars, or by imprisonment in the county jail not less than twenty days, nor more than ninety days," for any person who shall knowingly or willfully subject, or be instrumental in subjecting, another person to the danger of contracting small-pox, diphtheria or scarlet fever.

Act Number 45, Laws of 1895, makes provision against the introduction of dangerous communicable diseases, except under specified regulations, as follows:

"SECTION 1.—*The People of the State of Michigan enact*, That no person sick with cholera, small-pox, diphtheria, scarlet fever or any other communicable disease dangerous to the public health, no corpse of a person dead from one of the above-named diseases, or from any other communicable disease dangerous to the public health, and no article which has been infected or is liable to propagate or convey any such disease, shall come or be brought into any township, city or village in Michigan, without the special permit of the board of health or of the health officer of said township, city or village, and then only under the supervision of the health officer of said township, city or village.

SECTION 2.—Whoever shall violate the provisions of section one of this act, or the order of the health officer made in pursuance thereof, shall, on conviction, be deemed guilty of a misdemeanor, and shall be punished by a fine of not more than one hundred dollars, or by imprisonment in the county jail not exceeding three months, or by both said fine and imprisonment."

Under Section 1646, "Howell's Statutes," "The board of health may grant permits for the removal of any nuisance, infected article or sick person within the limits of their township, when they shall think it safe and proper so to do."

Section 1636, "Howell's Statutes," provides that the local board of health "shall also make such regulations as they may deem necessary for the public health and safety, respecting any articles which are capable of containing or conveying any infection or contagion, or of creating any sickness, when such articles shall be brought into or conveyed from, their township, or into or from any vessel; and if any person shall violate any such regulation, he shall forfeit a sum not exceeding one hundred dollars."

In order that such regulations shall become known to the public, Section 1639, "Howell's Statutes," provides: "Notice shall be given by the board of health of all regulations made by them, by publishing the same in some newspaper of the township, if there be one published therein, and if not, then by posting them up in five public places in such township; and such notice of such regulation shall be deemed legal notice to all persons."

Certain duties and compensation for services of health officers are provided for by Act Number 137, laws of 1883:

SECTION 1.—*The People of the State of Michigan enact*, That whenever the health officer of any township, city or village in this State shall receive reliable notice, or shall otherwise have good reason to believe that there is within the township, city or village of which he is the health officer, a case of small-pox, diphtheria, scarlet fever, or other communicable disease dangerous to the public health, it shall be the duty of said health officer, unless he is or shall have been instructed by the board of health, of which he is an executive officer, to do otherwise,—

Immediately to investigate the subject, and in behalf of the board of health, of which he is an executive officer,—

To order the prompt and thorough isolation of those sick or infected with such disease, so long as there is danger of their communicating the disease to other persons;—

To order the prompt vaccination or isolation of persons who have been exposed to small-pox.

To see that no person suffers for lack of nurses or other necessaries because of isolation for the public good;

To give public notice of infected places by placard on the premises, and otherwise if necessary.

To promptly notify teachers or superintendents of schools concerning families in which are contagious diseases.

To supervise funerals of persons dead from scarlet fever, diphtheria, small-pox, or other communicable disease which endangers the public health;

To disinfect rooms, clothing and premises, and all articles likely to be infected before allowing their use by persons other than those in isolation.

To keep the President of his own board of health, and the Secretary of the State Board of Health constantly informed respecting every outbreak of a disease dangerous to the public health, and of the facts so far as the same shall come to his knowledge, respecting sources of danger of any such diseased person or infected article being brought into or taken out of the township, city, or village of which he is the health officer.

SECTION 2.—In the absence of regulations conflicting therewith, made and published by the local board of health, and still remaining in force, the provisions of section one of this act shall have the force of regulations made and published by the local board of health; and whoever shall knowingly violate the provisions of section one of this act, or the orders of the health officer made in accordance therewith, shall be deemed guilty of a misdemeanor, and upon conviction thereof he shall be punished by a fine not exceeding one hundred dollars, and the costs of prosecution, or in default of payment thereof, by imprisonment not exceeding ninety days in the county jail, in the discretion of the court.

SECTION 3.—In the fulfillment of the requirements of this act, the health officer, unless other provisions shall have been made in accordance with law, shall be entitled to receive from the township, city or village of which he is health officer, compensation at the rate of not less than two (2) dollars per day: *Provided*, That this section shall not be construed to conflict with any action of the local board of health, under section sixteen hundred and ninety-three, of the compiled laws of eighteen hundred and seventy-one, as amended by act number two hundred and two, of the laws of eighteen hundred and eighty-one.

With respect to the reporting of communicable diseases by householders and physicians, Sections 1675, and 1676, "Howell's Statutes," require:

SECTION 43.—Whenever any *householder, hotel keeper, keeper of a boarding house, or tenant* shall know, or shall be informed by a physician, or shall have reason to believe that any person in his family, hotel, boarding house or premises is taken sick with small-pox, cholera, diphtheria, scarlet fever, or any other disease dangerous to the public health, he shall immediately give notice in writing thereof to the health officer of the township, city or village in which he resides. Said notice shall state the name of the person sick, the name of the disease, if known, the name of the householder, hotel keeper, keeper of boarding house, or tenant giving the notice, and shall, by street and number, or otherwise, sufficiently designate the house in which he resides or the room in which the sick person may be; and if he shall refuse or wilfully neglect immediately to give such notice, he shall be deemed guilty of a misdemeanor, and upon conviction thereof he shall be punished by a fine of not exceeding one hundred dollars and costs of prosecution; or, in default of payment thereof, by imprisonment not exceeding ninety days in the county jail, in the discretion of the court: *Provided*, That such fine or imprisonment shall not be enforced if a physician in attendance has given to the health officer or other officer hereinbefore mentioned an immediate notice of said sick person and true name of the disease, in accordance with the requirements of this section.

SECTION 44.—Whenever any *physician* shall know that any person whom he is called to visit, or who is brought to him for examination, is infected with small-pox, cholera, diphtheria, scarlet fever, or any other disease dangerous to the public health, he shall immediately give notice thereof to the health officer of the township, city or village in which the sick person may be; and to the householder, hotel keeper, keeper of a boarding house, or tenant within whose house or rooms the sick person may be. The notice to the officer of the board of health shall state the name of the disease, the name, age, and sex of the person sick, also the name of the physician giving the notice; and shall, by street and number, or otherwise, sufficiently designate the house or room in which said sick person may be. And every physician and person acting as a physician, who shall refuse or neglect immediately to give such notice shall forfeit for each such offense a sum not less than ten nor more than fifty dollars: *Provided*, That this penalty shall not be enforced against a physician if another physician in attendance has given to the health officer, or other officer hereinbefore mentioned, an immediate notice of said sick person, and the true name of the disease in accordance with the requirement of this section.

For the service required in the foregoing section compensation is provide for according to the following:

SECTION 50.—For each complete notice in writing to an officer of the boar of health, in full compliance with the preceding section, requiring from phys cians or other persons notices of diseases dangerous to the public health, th physician who gave the notice shall be entitled, on duly certifying that eac notice was correct, and when the bill has been duly audited by the board of health, to receive from the township, city, or village, in which the notice was given, the sum of ten cents.

From a review of the foregoing sections of the Michigan law it will be seen that the State Board of Health is empowered with the general supervision of the interests of the health and life of the citizens of this State, the study and use of vital statistics, the investigation of disease and advisory duties. Authority and duty to act, in specific instances, in guarding the public health against dangerous communicable diseases is given and imposed upon local boards of health and health officers. In so far as the restriction of small-pox, diphtheria and scarlet fever are concerned the law is specific, and as regards other diseases, it would seem that discretionary power and duty were delegated to the local board of health. If the notificatiou of consumption or any other disease not specifically mentioned be deemed in the interest of the public health, regulations to that effect by the local board would seem to be the intent of the law, although the Circuit Court of Detroit has declared otherwise. Until this point shall have been decided by the highest tribunal of the state, the reporting of "other communicable diseases dangerous to the public health" will remain *in statu quo.*

ANNOTATIONS.

THE SIGNIFICANCE OF ALBUMIN IN THE URINE.

THE confidence, at least in respect to diagnosis, that chemical analysis of the urine formerly inspired, has now, it must be confessed, given way to uncertainty and incompetency. The tacit admission that certain cases, which do not go on to anticipated prompt recovery, must nevertheless carry some hidden renal defect, in spite of the silent testimony of heat, nitric acid and other reliable tests for albumin, the microscope and centrifuge now often change into an avowal of the true condition. These instruments are now indispensable adjuncts to the analyst's art. By these means some urines, in which albumin is said to be never present or in which it is for periods absent, will to patient industry disclose casts or other debris of a significant nature. Other urines, in which no permanent organic changes, are by any means discoverable, are marked by the frequent or periodic presence of albumin, and as the persons in whom these facts are observed are often in other respects seemingly healthy, these cases become very perplexing, especially to one who has such a case before him, and the prognosis doubtful. Our knowledge on this subject is now very imperfect. Several observers have, however, given provisonal explanations, which, although they may undergo considerable modifications in the future, are more satisfactory than ignorance or mere denial. The largest three classes of albuminuria occurring in the seemingly healthy are stated by **HAWKINS*** to be "postural albuminuria," "exertion albuminuria," and "dietetic albuminuria" and of these the first class is believed by him to be the largest. He recognizes also a "neurotic albuminuria" and a kind observed in certain individuals after a cold bath, though this is considered unimportant. The underlying defect in

* *British Medical Journal,* Number MMXXXII.

most of these cases is generally believed to involve the vasomotor mechanism, and while some regard the disturbance as purely functional, others take a more ominous view and suspect a tendency to organic disease. Cases have been known to go on without apparent change for many years, still wise counsel would enjoin the utmost prudence of manner of living.

IS PNEUMONIA INFLAMMATORY?

The phrase "inflammation of the lungs" has been associated synonymously with pneumonia so long without question that any pathology that would dissolve this relation will be met with surprise and accepted with hesitation. We have not been reluctant in acknowledging the pneumococcic feature of the disease and yet an exceedingly important fact—the dual circulation in the lungs, the functional and the nutritional—has seemingly been overlooked or unappreciated. **Andrew H. Smith** gives due prominence to this point and, in discussing, in the "Twentieth Century Practice of Medicine," the pathology of pneumonia, declares it to be incorrect to style it an inflammation in the same sense in which that process is said to occur in other structures. His reasons for this distinction are that, unlike in inflammation, the tissues are but little affected by the active process, the fever ceases abruptly, and as soon as the cells are emptied of the exudate—culture medium for the pneumococci—the cell walls are found to be in practically normal condition. "Had this been an ordinary inflammation," he reasons, "as of the liver or the kidneys, accompanied by a corresponding amount of local change, we should expect to find such damage to the part as would require a long process of repair, if, indeed, complete recovery would ever take place. Vessels would be obliterated, new connective tissue would be formed, permanent indurations would remain, et cetera. Indeed such changes are the usual accompaniments of chronic pulmonary inflammations, and sometimes remain after pneumonia of an aberrant type. That they do not occur in typical croupous pneumonia seems sufficient evidence that the process in the latter case is essentially different from inflammation in general." When these facts are duly considered and it is remembered that nutrition is kept up even while the function suffers it is not difficult to concede that this temporary plugging of the air cells and passages is a peculiar and noninflammatory process.

CONTEMPORARY.

A PLEA FOR GREATER BREADTH OF VIEW.

[THE NEW YORK MEDICAL JOURNAL.]

Two remarkable addresses have been delivered this year, remarkable in that they both came from men of prominence and standard professional reputation and are both iconoclastic as regards one of the most firmly fixed ideas of modern medicine—namely, the specific germ causation of infective diseases. The first address was delivered by **Doctor Granville Bantock** before the British Gynecological Society on March 9, and was published in abstract in the *British Medical Jovrnal* for April 8 of this year. The second was by **Doctor George**

WILSON (*Lancet*, August 5), a prominent English medical officer of health, author of an admirable and widely used "Handbook of Hygiene," and president of the Section of State Medicine at the annual meeting of the British Medical Association; and it was, moreover, delivered *ex cathedra* as his presidential address. The burden of both addresses was the same—that the microorganisms whose constant presence has led to their being regarded as specific causes of disease are associated with the disease only because the disease provides the conditions necessary for their free development—in other words their presence is the result, not the cause, of disease. It would take too long to review here in detail the various facts upon which these authors rest their opinions, and it must be admitted that to uncritical inspection they carry considerable weight; but they are all overcome in every case where KOCH's rules have been fully complied with, namely, that a pure culture of the "associated" germ, grown outside the body, must reproduce the disease on introduction into the body of another animal, the same germ being then found in the animal so inoculated.

But these addresses are not without great value for all that, for they serve as notes of warning against any extravagant pushing of theories. In our stubborn war against the bad seed, we are in danger of losing sight of the important part played by the soil in the process of germination. Many years ago—in the days when the identity of typhus and typhoid fevers, or their difference, was still an open question, DOCTOR KING CHAMBERS, discussing in those admirable clinical lectures of his—models of straight thinking as they are—the subject of "typh-fever," gave utterance to this sententious statement: "For the act of poisoning to occur two things are requisite—first, a poison, secondly, a person apt to be poisoned." "In germs, in poisons, in medicines, as in many other things, we have long been devoting our attention too exclusively to the "poison" to the neglect of the "person apt to be poisoned." The importance of the latter needs no illustration. There is the wheat that will not grow on stony ground; there is the opium-taker who has so prepared the soil that a wineglassful of laudanum will not kill him; there is the person who goes freely among those stricken with infectious disease, and yet, though inevitably absorbing the disease germs, does not contract the disease, either because he has had it before or because he presents a naturally unsuitable soil. DOCTOR WILSON says: "The bacteriologists so dominate the public press that we almost seem to live in a bacillus-stricken world. . . . I venture to say that the unconditional microbe need have no terrors for humanity." It is just this dread of the "unconditional" microbe that will soon make life a misery to man, until he will begin to feel that the only way to avoid dying of the manifold perils that surround him is to kill himself at once. The idea is being pushed so far that one doubts whether it is safe to breath at all, for fear of inhaling the tubercle bacillus; to eat or drink, from the risk of taking in the typhoid bacillus; while, as to kissing the object of one's affection, it is fraught with dangers too numerous to mention and too terrible to contemplate. It was the dread of the "unconditional" microbe that led to the recent attempt to introduce an impracticable tuberculosis quarantine in California.

And whence comes all this distortion of harmony and proportion? Surely from forgetting that the same laws which hold good for the individual body hold good for the body corporate. We should deride the man who endeavored to get a knowledge of the liver from its appearance under a sixteenth-of-an-inch oil-immersion lens without ever having seen that viscus as a whole, or any larger portion thereof than a microscopic section affords; yet in all these questions affecting the macrocosm we are peering all the time through moral microscopes and losing sight altogether of the sense of breadth and proportion attainable only from a careful microscopic observation before the object is submitted to a lens at all. And the newspaper hysterics take our careless observations and our differing views, and with their "crowd suggestion" drive bodies of otherwise sensible men to hasty, impracticable, unjustifiable, undue restrictive legislation until it seems no longer safe to live.

MEDICAL NEWS.

AN ENJOYABLE EVENT.

Tuesday evening, December 19, 1899, was the occasion of a very sociable gathering together of a large number of Detroit physicians in honor of the thirtieth anniversary of the Detroit Academy of Medicine. Doctor Henry A. Cleland, one of the oldest members and founders of the society, delightfully entertained at his residence nearly two hundred members and friends, including some from Ann Arbor, Flint and other places.

DOCTOR SHURLY WINS.

In the case of the People *versus* Doctor Ernest L. Shurly, an action instituted to recover a fifty-dollar penalty from the doctor for failure to report a case of consumption, Judge Donovan, of the Detroit Circuit Court, disposed of the litigation by directing that a verdict be rendered for defendant on the ground that consumption is not specifically mentioned in the statute, a stipulation that would obtain had the intention been to include it in the list of diseases required to be reported. He said: "Whether consumption, a disease so well known, shall be classed as contagious is still a problem."

THE PASSING OF A PIONEER PHYSICIAN.

Doctor Cyrus M. Stockwell, a pioneer physician of Port Huron and first president of the Michigan State Medical Society, recently died in that city, aged seventy-six years. Deceased was born in Colesville, New York, June 20, 1823, and educated at Oxford, after which he taught school in Pennsylvania and Delaware. He subsequently studied medicine in Binghampton, New York, and in 1850 received the degree of Doctor of Medicine at the Berkshire Medical College, located at Pittsfield, Massachusetts. His professional career was inaugurated in Pennsylvania, but one year later he emigrated to Michigan, settling in Port Huron, where he uninterruptedly pursued the practice of medicine until five years ago, advancing age then inducing him to retire. The pioneer epoch in his professional life was remarkable for rides of magnificent distances, and jaunts of forty and even sixty miles a day were frequently required to afford medical succor. At the outbreak of the civil war he entered the army as surgeon of the Twenty-seventh Michigan Infantry, and after the close of hostilities rendered service for a time as assistant surgeon at Fort Gratiot. In 1864 he was elected to the regency of the University of Michigan, serving until 1871. In 1866 he was instrumental in founding the Michigan State Medical Society and enjoyed the honor of having been the first president of the organization. He was several times chief executive of the Northeaster District Medical Society, and was prominently identified with the professiona interests of the state. For the past five years Doctor Stockwell lived a retire life. He had been in poor health for two years and consequently his death wa not unexpected. He was twice married and leaves a widow, two sons—Doct Charles B. Stockwell, of Port Huron, and Doctor G. Archie Stockwell, o Detroit, and two daughters—Mrs. Walter McMillan, of Chicago, and Mrs. E E. Hyde, of Buffalo.

RECENT PUBLICATIONS.

REVIEWS.

PHYSICIAN'S VISITING LIST FOR 1900.*

This is perhaps the handiest pocket visiting list for physicians published, and the fact that it has been issued for forty-nine years strongly commends its claim to usefulness.

* Published by P. Blakiston's Son & Company, Philadelphia.

SURGICAL NURSING.*

The small book with the title given above is much more comprehensive than its predecessor—"Nursing in Abdominal Surgery and Diseases of Women"—edited by the same author, and will be most acceptable to the many teachers and nurses who have adopted Doctor Fullerton's ideas and methods.

* By Anna M. Fullerton, M. D., Clinical Professor of Gynecology in the Woman's Medical College of Pennsylvania; Obstetrician, Gynecologist, and Surgeon to the Woman's Hospital of Philadelphia. Third edition, revised and enlarged, with sixty-nine illustrations. Philadelphia: P. Blakiston's Son & Company.

DISEASES OF THE NERVOUS SYSTEM.*

To attempt to criticise this work, which was so well received in the original German text as to secure translations into English, French, and Italian, would indeed be hypercritic. We have no other desire in this notice than to remark the simple but admirable arrangement of the several subjects and the perspicuity of the text, most desirable qualities in a text-book upon diseases of the nervous system. It is well deserving of the wide acquaintance that the translations will give it.

*By Doctor Ludwig Hirt, Professor at the University of Breslau. Translated, with permission of the author, by August Hoch, M. D., Formerly Assistant Physician to the Johns Hopkins Hospital, now to the McLean Hospital, Waverly, Massachusetts, assisted by Frank R. Smith, A. M. (Canterbury), M. D., Instructor in Medicine in the Johns Hopkins University. With an introduction by William Osler, M. D., F. R. C. P., F. R. S., Professor of Medicine in the Johns Hopkins University, et cetera. One hundred and eighty-one illustrations. New York: D. Appleton & Company.

PRACTICAL ANATOMY.*

Not every one who has completed a course in medicine, in fact not every author appreciates the difficulties in the way of the young student. Not to mention the strangeness of the subject, there is usually thrown upon him such a vast amount of technical terms that he is almost bewildered and discouraged.

This is especially true of anatomy. When he first sits down with his Gray open before him it seems to him like a huge mountain. Why not pave the way with an abridged and perhaps more elementary work? As it is now students are rushed along and some reach the final year, and some even become doctors who have not yet understood except by name some of the terms that met their eyes during the first few weeks of their student life. It may be the fault of the teacher who tries to teach too much in the short time at his command. Whether this be true or not, at any rate it is the text-book and not the teacher upon which the student must rely for full information. The teacher can only guide and encourage. Upon anatomy a new book is offered that approaches the ideal more nearly than any other within our mind. It is by no means a substitute for a complete work on the subject; but it will admirably serve the beginner and student in the dissecting room.

* Edited by W. T. Eckley, M. D., Professor of Anatomy in the College of Physicians and Surgeons of the University of Illinois; Professor of Anatomy in the Northwestern University Dental School; Professor of Anatomy in the Chicago Clinical School, and Director of the Chicago School of Anatomy and Physiology; Member of the American Medical Association, the Chicago Pathological Society, the Chicago Medical Society, et cetera; and Mrs. Corinne Buford Eckley, Instructor of Anatomy in the Northwestern University Dental School; Professor of Anatomy in the Northwestern University Woman's Medical School; Professor of Anatomy in the Chicago School of Anatomy and Physiology. With three hundred and forty-seven illustrations, many of which are in colors. Octavo. Price, $3.50 net, cloth; $4.00 net, oilcloth. Philadelphia: P. Blakiston's Son & Company.

PROPHYLAXIS AND TREATMENT OF PULMONARY TUBERCULOSIS.*

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